R842-09

ERIC REPORT RESUME

ED 010 191 1-30-67 24 (REV)

RELATIONS BETWEEN TEACHER PRACTICE AND KNOWLEDGE OF READING THEORY IN SELECTED GRADE SCHOOL CLASSES.

GUSZAK, FRANK J.
XY081707 UNIVERSITY OF WISCONSIN, SCH. OF EDUC., MADISON

CRP-S-437
BR-5-8402
- -66
EDRS PRICE MF-$0.18 HC-$5.08 127P.

*COMPREHENSION, *READING COMPREHENSION, *COMPREHENSION DEVELOPMENT, *ELEMENTARY SCHOOL TEACHERS, TEACHERS, ELEMENTARY SCHOOLS, *TEACHER EDUCATION, INSERVICE TEACHER EDUCATION, PRESERVICE EDUCATION, MADISON, WISCONSIN, SAN ANGELO, TEXAS

THE PROBLEM OF THIS RESEARCH WAS TO INVESTIGATE THE RELATIONS THAT MIGHT EXIST BETWEEN TEACHER KNOWLEDGE OF AND PRACTICES IN THE DEVELOPMENT OF READING COMPREHENSION. PRELIMINARY TO THE DEVELOPMENT OF SPECIFIC RESEARCH QUESTIONS WERE A SERIES OF GENERAL QUESTIONS GROUPED UNDER THESE MAIN CATEGORIES--(1) TEACHER KNOWLEDGE OF COMPREHENSION THEORY, (2) TEACHER PRACTICES IN COMPREHENSION DEVELOPMENT, AND (3) RELATIONS BETWEEN TEACHER KNOWLEDGE AND PRACTICES. FIVE TEST INSTRUMENTS WERE INVOLVED IN THE STUDY--(1) READING COMPREHENSION THEORY TEST, (2) READING COMPREHENSION SOLICITATION-RESPONSE INVENTORY, (3) CONGRUENCE-INCONGRUENCE DIMENSION, (4) SOLICITATION-RESPONSE UNIT, AND (5) SOLICITATION-RESPONSE EPISODE. THE SAMPLE CONSISTED OF SECOND-, FOURTH-, AND SIXTH-GRADE TEACHERS DRAWN AT RANDOM FROM 16 ELEMENTARY SCHOOLS IN SAN ANGELO, TEXAS. THE STUDY RESULTS ARE PRESENTED IN TERMS OF COMPREHENSION THEORY, COMPREHENSION DEVELOPMENT, AND THE RELATIONS BETWEEN KNOWLEDGE AND PRACTICE. IMPLICATIONS ARE MADE FOR PRESERVICE AND INSERVICE TEACHER EDUCATION. (JC)

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

Title: RELATIONS BETWEEN TEACHER PRACTICE AND KNOWLEDGE OF READING THEORY IN SELECTED GRADE SCHOOL CLASSES

Project Director: Frank J. Guszak

Institution: The School of Education, University of Wisconsin
Madison, Wisconsin

Project Number: S-437 financed by U.S. Office of Education

Duration: September 1, 1965 to September 9, 1966

ED010191

TABLE OF CONTENTS

Page

CHAPTER ONE: INTRODUCTION 1

Background 1
Problem. 3
General Questions. 5

CHAPTER TWO: DERIVATION OF THE CONCEPTUAL FRAMEWORK 7

Teacher Knowledge of Comprehension Theory. 7
Teacher Practices in Comprehension Development 7
  Reading Comprehension Outcomes Dimension. 8
  Congruence-Incongruence Dimension 12
  Solicitation-Response Interaction Dimension 12
Specific Research Questions. 16

CHAPTER THREE: PROCEDURES 19

Instrument Testing 19
  Reading Comprehension Theory Test 19
  Reading Comprehension Solicitation-Response Inventory . . 22
  Congruence-Incongruence System. 25
  Solicitation-Response Unit. 25
  Solicitation-Response Episode 26
The Sample 26
  Teachers. 26
  Students. 28
Data Collection Procedures 28
Analysis System for Protocols. 32
Statistical Procedures 34

CHAPTER FOUR: RESULTS 36

Teacher Knowledge of Comprehension Theory. 36
Teacher Practices in Comprehension Development 38
  Reading Comprehension Outcomes Dimension. 38
  Congruence-Incongruence Dimension 43
  Solicitation-Response Interaction Dimension 51
Relations Between Knowledge and Practice 70
Summary. 76

Page

CHAPTER FIVE: CONCLUSIONS 84

Teacher Knowledge of Comprehension Theory. 84
Teacher Practices in Comprehension Development 84
Reading Comprehension Outcomes Dimension. 85
Solicitation-Response Interaction Dimension 87
Relations Between Teacher Practices and Knowledge. 88
Limitations of the Study 89
Implications 92

BIBLIOGRAPHY 95

APPENDICES

I. Reading Comprehension Theory Test. 100
II. Reading Comprehension Solicitation-Response Inventory. 104
III. Solicitation-Response Episode Patterns 106
IV. Reading Materials Used in Solicitation-Response Interaction in the Sample Second, Fourth, and Sixth Grades. 108
V. Sample Transcripts of Solicitation-Response Interaction in Grades Two, Four, and Six. 110

CHAPTER ONE

INTRODUCTION

It seems logical to assume that teacher effectiveness may, in part, be the result of the professional knowledge that the teacher brings to the instructional task. An extension of this logic to the specific instructional area of reading comprehension would suggest that teachers who are more proficient in understanding the theoretical bases of reading comprehension would be more likely to implement varied reading comprehension development tasks than teachers without such theoretical backgrounds.

Background

Essentially, the problem stems from the age-old concern relative to the effect of theoretical preparation upon subsequent practices and the ensuing question which asks whether teaching is an art or a science. Those who hold that teaching is an art suggest that professional knowledge can have little effect upon the intuitive teaching art. In response, educators agree that while intuitive elements are important components, there are numerous techniques in any art fomm that assist the artist in carrying out his production.

In their efforts to support the discipline of education, educators have attempted to demonstrate that teacher-training programs do have an impact upon instructional practices. One aspect of such research has been the gross study which attempts to show that total programs of teacher education affect total programs of instruction. Illustrative of such an endeavor is a study by Beery (7) wherein teacher-education-program graduates were compared with non-teacher-education teachers as both groups went about their full-time teaching assignments. The results of Beery's observational team ratings significantly supported the efficacy of the teacher-education group. Beery's conclusions were challenged, however, on the grounds of the criteria that were developed for characterizing superior teaching as well as the composition of the rating groups.

Seemingly, gross measurement attempts such as Beery's cannot escape being labeled tenuous because of the multitude of uncontrolled variables. Other studies have attempted to narrow the spectrum of variables by measuring specific treatments to determine their effect. Such studies have produced few answers, however, because one cannot assume that there is necessarily a high correlation between what a program offers and what a student obtains from the program. Thus, researchers have proceeded a step further and have attempted to measure the outcomes of instruction and to view such outcomes against practices to determine whether relationships exist between outcomes and practices.

Turner and Fattu (55) have reasoned that knowledge is valuable only if it can be marshalled to the task. To test whether teachers can integrate and utilize theoretical and practical knowledge, the researchers have designed tests based on the "problem solving criterion." In these tests the teachers are confronted with simulated classroom instructional tasks and asked to analyze and propose solutions. The researchers report success in identifying able problem-solving mathematics teachers. Wade (56) and Burnett (14) report varying degrees of success in attempting to assess reading teachers' problem-solving skills.

Contributing to the difficulty of determining the relationships between reading-comprehension knowledge and reading-comprehension practices are the vagueries that surround these entities. What constitutes a sound body of reading-comprehension theory? What practices do teachers utilize for developing pupils' reading-comprehension skills? Because neither question has been approached empirically, the preliminary research problems concerned the construction of such theoretical bases.

Teacher phonics knowledge has long been an intriguing area of investigation for researchers as evidenced in studies by Aaron (1), Durkin (17), and Spache and Baggett (52). Yet, no efforts other than teacher-made tests in teacher-education programs can be found that assess teachers' and potential teachers' understandings of theory concerning reading-comprehension development.

With regard to teacher practices, only in recent years have sophisticated empirical studies been designed to describe the teaching art. Among these, studies by Aschner and Gallagher (2), Bellack (8), Bellack and Davitz (9), Block (10), Flanders (20), and Smith (47) have contributed new understandings to the knowledge of teacher actions and corresponding student reactions.

Problem

The stated research problem concerns the relationship between teachers' knowledge about reading comprehension and their subsequent practices relative to the development of reading comprehension. Before such a problem could be approached it was imperative that initial assessments be made of reading-comprehension knowledge levels and practices. As indicated previously, assessment measures for these factors were either non-existent or limited. This meant that the preliminary work would concern the development of the theory upon which to construct instruments for assessment.

The first problem area concerned the development of a conceptual framework of reading comprehension knowledge. The literature revealed that many people had thoughts about reading-comprehension theory but that few had carefully researched the area. Thus, the task became one of sifting through the information and identifying ideas which appeared to have research support or high consensual agreement among reading theoreticians.

Teacher practices or acts that are concerned with reading comprehension development appeared numerous. Thus, the decision was made to focus upon what appeared to be the most prominent act. The result was the decision to investigate the teacher questioning or solicitation act. The term solicitation as used by Bellack and Davitz (9) was chosen in preference to the term questioning because the former encompassed a wider sample of teachers' verbal statements. As defined in the study, a solicitation was any verbal move on the part of the teacher intended to elicit (a) an active verbal response, (b) a cognitive response, or (c) a physical response.

Although a study of teacher solicitation behaviors would provide evidence about instruction, such evidence would appear tentative because of a failure to recognize the all-important student response. For this reason, the decision was made to observe responses in relationship to teacher solicitations for the purpose of determining congruence or incongruence. Seemingly, such determinations would shed insights upon the effectiveness or ineffectiveness of teacher solicitation acts. Congruence meant that the response achieved the substantive purpose intended by the teacher in his solicitation.

Since solicitations and responses were component parts of total interaction patterns it appeared worthwhile to investigate the nature of such patterns to determine their effect upon thought stimulation. Therefore, the decision was made to describe the patterns of solicitation-response interaction about reading content.

Because reading-comprehension development is charged primarily to the elementary reading teacher, the decision was made to conduct the research in selected second-, fourth-, and sixth-grade reading classes. A further decision resulted in the selection of those second-, fourth-, and sixth-grade classes that contained three-reading-group structures. Thus, the investigation could view teacher practices in relation to different reading groups and grade levels.

To summarize, the research problem was concerned with relations that might exist between teacher knowledge of and practices in the development of reading comprehension. Before such relations could be identified it was necessary to describe the various aspects of the knowledge and practice factors.

General Questions

Issuing from the problem statement but preliminary to the development of the specific research questions were the following general questions.

They are grouped under the main categories of inquiry.

Teacher Knowledge of Comprehension Theory

1. What levels of theoretical knowledge about reading comprehension do randomly selected sample teachers possess?
2. Do prominent differences exist between the theoretical knowledge levels of the sample teachers?

Teacher Practices in Comprehension Development

1. What types of solicitations about reading content appear and what are their frequencies and percentages in the second, fourth, and sixth grades and their component reading groups?
2. How frequently are the various solicitation types followed by congruent and incongruent responses in the second, fourth, and sixth grades and their component reading groups?
3. What patterns of congruence and incongruence (interaction) emerge in the solicitation-response act about reading content and what are their frequencies in the second, fourth, and sixth grades and their component groups?

Relations Between Teacher Knowledge and Practices

1. What relationships, if any, appear between teacher knowledge about comprehension and their solicitation practices in this area?
2. What relationships, if any, appear between teacher knowledge about comprehension and their solicitation-response interaction patterns with students in this area?

CHAPTER II

DEPRIVATION OF THE CONCEPTUAL FRAMEWORK

Conceptual frameworks were developed for the areas of teacher knowledge of comprehension theory and teacher practices in comprehension development.

Teacher Knowledge of Comprehension Theory

Sources for the reading comprehension theory that was constructed into the theoretical framework were reading texts, research publications, and basal reading series treatments.

Contained in the theoretical framework were the following reading comprehension factors: definitions, processes, and skills in reading comprehension; relationships between reading comprehension and listening comprehension, rate of reading, study skills, word recognition, vocabulary, content areas, and linguistics; critical reading; factors influencing success or failure in reading comprehension development; materials for beginning reading comprehension; and the assessment of reading comprehension skill.

Teacher Practices in Comprehension Development

Teacher practices in comprehension development were viewed from the standpoint of (a) reading comprehension outcomes called for by teacher solicitation, (b) the congruence or incongruence between teacher solicitations and student responses, and (c) the patterns of solicitation-response interaction.

Reading Comprehension Outcomes Dimension

A search for a valid and reliable instrument or framework for describing reading-comprehension outcomes revealed a multitude of conceptualizations. Generally, the varying descriptions could be attributed to the fact that many theoreticians were attempting to describe the unknown mental processes involved in the specialized thinking activity called reading comprehension.

Because of the researcher's inability to describe the mental processes operative in reading comprehension, the decision was made to follow the suggestion of Spache (51) who argued for reading-comprehension description based upon the observable outcomes of reading comprehension. In accordance with this, a model of reading-comprehension outcomes by Letton (37) was viewed. It contained the following classifications.

Factual - recall or recognition of stated details, finding specific details.
Reorganization - recognizing or stating the main idea, summarizing the central thought, outlining the given facts, classifying ideas.
Inferential - anticipating outcomes, drawing conclusions, or inferences, recognizing sequence of related ideas, recognizing implied details, perceiving relationships (cause-effect, time, size, part-whole, etc.)
Interpretive - recognizing and interpreting figurative language, recognizing connotation and denotation of words, forming sensory impressions, interpreting idiomatic language, reacting to tone and mood.
Evaluative - comparing and contrasting concepts with own experience and various sources, distinguishing between fact and opinion, eliciting generalizations, making judgments about the author's purpose and veracity, recognizing propaganda techniques, reacting to author's style.

The Letton model appeared to be a sensible approach to viewing the outcomes sought by teacher solicitations for several reasons. Initially it appeared to be a set of extensive and mutually exclusive categories although there appeared room for argument in several places. Also, it appeared to encompass in a rather logical organization the important components of prominent thinking models, (e.g.), Guilford (23), and reading models, (e.g.), Smith (48), Russell (42), etc.

Thinking and reading-comprehension models generally appeared to contain the common major elements of literal thinking, interpretative thinking, and evaluative thinking. As applied to reading, literal comprehension meant that the student must arrive at the basic meanings programmed by the author. Interpretation meant that the student must read between the written lines or pick up certain implied meanings that were unstated. Finally, evaluative reading meant that the reader must screen the written thoughts through his value system and make judgments as to their accuracy and appropriateness.

The Letton factual, inferential, and evaluative levels paralleled the aforementioned classifications. However, Letton had added the dimensions of reorganization and interpretation. It was with regard to these latter categories that basic questions arose in the mind of the investigator. The reorganization category as stated by Letton appeared to be somewhat ambiguous and to contain elements that might be more properly placed in other categories. For instance, the task of locating the main idea seemed to involve both evaluative and inferential tasks. It seemed that the interpretive category breakdowns belonged to the inferential category or vice-versa. Also, a part of the interpretive category seemed to describe factual recall more than interpretive outcomes, i.e., the connotation and denotation of words appears to be a learned response in most instances.

Because of the contradictory and confusing nature of the reorganization and interpretive categories of Letton's model the decision was made to omit these categories from the developing conceptual framework and subsume their content elsewhere.

It should be pointed out that the thinking models described by Bloom (11) and Sanders (44) appeared to describe thinking modes that went beyond those generally employed in the reading act, (e.g.), such things as application, synthesis, and analysis. The classification of translation contained in both models caused concern, however, as it was viewed against the three classifications of literal comprehension, interpretation, and evaluation. Translation resided between the literal comprehension dimension and the interpretation dimension. It appeared to be different from both categories and, thus a necessary addition to the triumvirate. The decision was made to include it as a category.

In the final analysis the decision was made that the major categories of literal comprehension, translation, interpretation, and evaluation best represented the outcomes of thought about reading materials. To avoid confusion and to provide what was considered to be a more descriptive classification, the term inferential was substituted for interpretation. The form and substance of the final instrument which was subsequently called the Reading Comprehension Solicitation-Response Inventory follows along with additional rationale for its development.

Reading Comprehension Solicitation-Response Inventory

Literal Comprehension - Such solicitations require responses that can be found clearly in the textual materials and involve only a literal understanding of the material. The following classifications represent the breakdown of such reading comprehension activity.

Recognition - These solicitations call upon the students to utilize their comprehension skills in the task of locating information from reading context.

Recall - Recall solicitations call for students to demonstrate comprehension by the recall of materials previously read. Such activity is primarily concerned with the retrieval of small pieces of factual material although the activity can vary greatly in difficulty depending upon the nature of the item called for and its prominence in the reading context. Recall is differentiated from "translation" in that recall does not call for a part for part rendering of a communication above the sentence level.

Translation - These solicitations require the student to render an objective, part for part parallel of a communication. As such the behavior is characterized by literal understandings in that the translator does not have to discover intricate relationships, implications, or subtle meanings. Translation solicitations frequently call upon students to change words, ideas, and pictures into different symbolic form as is illustrated in the following material from Bloom (10)

Translation from one level of abstraction to another, e.g., abstract to concrete, lengthy to brief communication, etc.
Translation from one symbolic form to another, or vice versa, e.g., pictures to verbal descriptions, verbal to dramatizations.
Translation from one verbal form to another, e.g., non-literal statements (metaphor, symbolism, exaggeration) to ordinary English.

Inferential - Such solicitations require the students to "read between the lines" or infer ideas depending upon such things as the nature of the solicitation, etc. Breakdowns of this classification follow.

Conjecture - These solicitations call for a cognitive leap on the part of the student as to what might happen or will happen. As such the conjecture is anticipatory and is not a rationale. Conjectures may be either convergent or divergent.

Explanation - Explanation solicitations are those that call for a rationale such as the "why" or "how" of a situation. The rationale must be inferred by the student from the context developed or go beyond it if the situation is data poor in terms of providing a rationale. Some of the more common types of explanatory behavior are substantiations of claims, explanations of value positions, explanations of the workings of complex processes and mechanisms, generalizations, and the formulation of conclusions. The main idea is considered a summary conclusion which is a part of this category.

Evaluative - Evaluative solicitations deal with matters of value rather than matters of fact or inference and are, thus, characterized by their judgmental quality (desirability, worth, acceptability, or probability of occurence). The following components of this category are adapted from a classification scheme by Aschner and Gallagher (2)

Solicitations call for a rating (good, bad, true, etc.) on some item (idea, person, etc.) in terms of some scale of values provided by the teacher.
Solicitations call for a value judgment on a dimension set up by the teacher. Generally, these are "yes" or "no" responses following solicitations such as "Would you have liked Tom to be your brother?"
Solicitations develop from conjectural solicitations when the solicitation is qualified by probability statements such as "most likely."

> Solicitations present the student with a choice of two or more alternatives and require a choice on the part of the student, i.e. "Who did the better job in your opinion, Mary or Susan?"

Congruence - Incongruence Dimension

Bellack (8) found that teacher solicitations were most frequently followed by student responses that were congruent in terms of thinking outcomes sought and given. This notion of congruence was somewhat different from the one envisioned by this researcher as he wished to study congruence in terms of its substantive nature.

Substantive congruence as envisioned in this study referred to the reciprocity between the substantive content sought by a teacher and the subsequent substantive content offered by the student as a response to the initiating solicitation. The determination of substantive congruence was to be made by an observer-judge who would view both solicitation and response as well as the frame of reference (in this study the reading content) and make judgments as to what was sought by the solicitor and whether or not the ensuing response supplied the substantive essence.

Solicitation-Response Interaction Dimension

This dimension of the study was concerned with (1) the nature of the solicitation-response act and (2) the patterning of such acts into related wholes. The solicitation-response act was referred to as the Solicitation-Response Unit About Reading Content while the larger pattern became the Solicitation-Response Episode About Reading Content.

Solicitation-Response Unit About Reading Content

Smith and Meux's (47) "episode" which described solicitation-response interaction in terms of (a) an initiating phase, (b) a sustaining phase, and (c) a closing phase becamse the base for the Solicitation-Response Unit About Reading Content.

In the current study the initiating phase became the initiating solicitation and was limited to teacher solicitations about reading content being studied. An initiating solicitation might be any one of the six solicitation types listed in the Reading Comprehension Solicitation-Response Inventory (recognition, recall, translation, conjecture, explanation, or evaluation).

The second or sustaining phase concerned any verbal activity on the part of the teacher after the initiating solicitation which served to extend response activity, clarify the initiating solicitation or a subsequent response, or cue response to the initiating solicitation. Illustrative of these three major types of sustaining activities are their components.

Extending - This activity refers to the solicitation activity following an initiating solicitation that seeks to stimulate further response to the initiating solicitation without providing further information. The following subcategories represent the breakdown of this function.

Signaling - This refers to a situation wherein the teacher signals students to respond or continue responding to the initial solicitation. She may simply use a student's name with rising inflection, say "next", or use any number of words to indicate that the unit is open for further response.

Valuing - This differs from signaling in that the teacher makes some valuing comment following a previous student response that indicates that the unit is open for further response which may be in the form of correction or simply additional response. The valuing comment employs rising inflection that indicates that the unit is open for further response.

Reiterating - The teacher reiterates the initiating solicitation either before or after a student response and the reiteration serves to hold the unit open.

Clarifying - Clarifying activity refers to the act wherein the teacher requests that the student either repeat, clarify, or elaborate on his previous response to the initiating solicitation. Also, other students may be asked to carry out these functions. The categories of clarifying follow:

Repeating - The teacher simply asks the student to repeat his response to the initiating solicitation.

Clarifying - The teacher asks the student for a clarification of a previous response to the initiating solicitation.

Elaborating - This calls for an elaboration of a previous response. This should not be confused with the thinking outcome labeled "explanation" which involves the initiation of a new unit.

Cueing - Cueing refers to the act wherein the teacher furnishes cues to further enable the students to respond to the initiating solicitation.

Restating - Restating represents a reformulation of the original solicitation wherein the substantive intent is maintained. Restating activity may occur immediately after the initiating solicitation or after responses.

Pinpointing - This teacher activity further identifies the intent of the initiating solicitation and consequently guides the student response. Rather than simply restating, the teacher produces cues that pinpoint the area of response. The activity is frequently found in situations wherein the initiating solicitation is met by silence or incongruent response.

Guiding - Guiding refers to teacher activity that represents a partial answer to the initiating solicitation. Generally, such guiding behavior takes the form of a declarative statement wherein the students are signaled to complete the statement with a word or two. As in the case of pinpointing this latter type of activity is frequently found in situations wherein the teacher has been unsuccessful in obtaining the intended response. Guiding activity occurs most prominently within the area of literal comprehension.

The final or closing phase of the Solicitation-Response Unit About Reading Content occurs when the focus shifts from the substantive intent of the initiating solicitation. Such a shift can be conditioned by either the teacher or students. Prior to such a shift an initiating solicitation would experience one of the following: response not allowed by the teacher, response allowed but student silence prevails, a student responds with a "don't know," illogical response, inaudible response, or a congruent incongruent response in terms of the substantive intent.

Solicitation-Response Episode About Reading Content

The concept of the Solicitation-Response Episode About Reading Content grew from the idea that Solicitation-Response Units About Reading Content might be patterned into related wholes by teachers and that an examination of such patterns might be useful for describing thought stimulation techniques.

Few researchers in the literature had addressed themselves to this notion and the studies of Smith and Meux (47), Block (10), and Bellack (8) appeared to be the only ventures related to this concept. None of these three studies appeared to offer much direction, however.

Because of the apparent novelty of the "episode" concept as envisioned in the current study, the attempt was made to view a wide number of Solicitation-Response Units and their relationships to one another to see if patterns might be evident. The results of such observation are illustrated in the following patterns.

SETTING PURPOSE FOLLOW-UP - This type of episode results when a teacher would follow up a "setting purpose" solicitation (S(O)) with a parallel solicitation calling for a response. On many occasions teachers set purposes but neglect to follow up on them. Illustrative of the "setting purpose follow up" episode is the following example.

__________ Teacher: Read this page and the next to yourself.
1 Find out who woke him up, and what he decided to do.

________0 (Children read silently.)

2 Teacher: Who woke Andy up?

________2- Student: His daddy and Dot. (Answer judged incongruent because Dot was not involved in the waking act.)

VERIFICATION - These episodes involve solicitations wherein congruence can be verified by referring to the text. It is the reverse of the "setting purpose followup" episode in that a recall or translation response is followed by a teacher solicitation that calls upon the student or group to verify the accuracy or inaccuracy of the previous statement. The verification may involve recall or recognization. The following example illustrates a verification episode.

2 Teacher: How many children were there?

2+ Student: Six.

1 Teacher: I'm not sure about that. Can you show me?

1+ Student: It said that there were two the first time, two the second time, and two the third time.

JUSTIFICATION - This type of episode appears when a teacher calls upon a student to justify his own or somebody else's previous response by the use of explanation. This explanation might follow any type of previous response but most frequently follows judgment and conjecture responses. An example of this episode follows:

7 Teacher: Looking at the sign, do you think the circus is still in town?

7+ Student: Yes.

5 Teacher: Why?

D Student: I don't know.

JUDGMENTAL - This episode refers to those situations wherein the teacher will solicit a judgmental or evaluative reaction (not an explanation) to a previous student response. In many instances this episode type represents a reverse of the justification episode in that a student or group is asked to make a judgment about a previous conjecture or explanation.

5 Teacher: Why do you think it would be fun to visit on Pleasant Street?

5+ Student: Because it's quiet and you don't hear any sounds.

7 Teacher: Are you sure?

7+ Student: Yes.

Specific Research Questions

With the development of the conceptual frameworks described in this chapter the general research questions at the end of Chapter One were modified into the following specific research questions.

Teacher Knowledge of Comprehension Theory

1. What theoretical knowledge ratings (high, average, or low) do the twelve sample teachers obtain on the Reading Comprehension Theory Test?

2. Do prominent differences exist between the ratings of any of the twelve sample teachers?

Teacher Practices in Comprehension Development

Reading Comprehension Outcomes Dimension

1. What are the frequencies and percentages of each of the six solicitation types of the Reading Comprehension Solicitation-Response Inventory?

2. What are the frequencies and percentages of each of the six solicitation types of the Reading Comprehension Solicitation-Response Inventory in the second, fourth, and sixth grades?

3. What are the frequencies and percentages of each of the six solicitation types of the Reading Comprehension Solicitation-Response Inventory in the combined top, middle, and low groups of the sample?

4. What are the frequencies and percentages of each of the six solicitation types of the Reading Comprehension Solicitation-Response Inventory in the top, middle, and low groups of each grade?

Congruence - Incongruence Dimension

5. What are the frequencies and percentages of congruence and incongruence?

6. What are the frequencies and percentages of congruence and incongruence in the second, fourth, and sixth grades?

7. What are the frequencies and percentages of congruence and incongruence in the combined top, middle, and low groups of the sample?

8. What are the frequencies and percentages of congruence and incongruence in the component reading groups of each grade?

Solicitation-Response Interaction

9. What are the frequencies of congruent and incongruent Solicitation-Response Unit patterns?

10. What are the frequencies of congruent and incongruent Solicitation-Response Unit patterns in the second, fourth, and sixth grades?

11. What are the frequencies of congruent and incongruent Solicitation-Response Unit patterns in the combined top, middle, and low groups of the sample?

12. What are the frequencies of congruent and incongruent Solicitatinn-Response Unit patterns in the top, middle, and low groups of each grade?

13. What are the frequencies of Solicitation-Response Episode patterns?

14. What are the frequencies of Solicitation-Response Episode patterns in the second, fourth, and sixth grades?

15. What are the frequencies of Solicitation-Response Episode patterns in the combined top, middle, and low groups of the sample?

16. What are the frequencies of Solicitation-Response Episode patterns in the top, middle, and low groups of each grade?

Relations Between Teacher Practices and Knowledge

1. What relations, if any, appear between those teachers scoring high and low on the Reading Comprehension Theory Test and their solicitation practices as measured by the Reading Comprehension Solicitation-Response Inventory?

2. What relations, if any, appear between those teachers scoring high and low on the Reading Comprehension Theory Test and their congruence-incongruence frequencies and percentages as measured on the Congruence-Incongruence Dimension?

3. What relations, if any, appear between those teachers scoring high and low on the Reading Comprehension Theory Test and their solicitation-response interaction as measured by the Solicitation-Response Unit About Reading Content?

4. What relations, if any, appear between those teachers scoring high and low on the Reading Comprehension Theory Test and their solicitation-response interaction as measured by the Solicitation-Response Episode About Reading Content?

CHAPTER THREE

PROCEDURES

Procedures outlined in this chapter concern the testing of the research instruments (Reading Comprehension Theory Test, Reading Comprehension Solicitation-Response Inventory, Congruence-Incongruence Dimension, Solicitation-Response Unit, and Solicitation-Response Episode), the selection and description of the sample, data collection procedures, the analysis system for the protocols, and the statistical analysis of the data.

Instrument Testing

The following five instruments were tested in pilot studies prior to the major study: Reading Comprehension Theory Test, Reading Comprehension Solicitation-Response Inventory, Congruence-Incongruence Dimension, Solicitation-Response Unit About Reading Content, and the Solicitation-Response Episode About Reading Content.

Reading Comprehension Theory Test

A representative sample of information was drawn from the reading comprehension theoretical framework outlined in Chapter II. This information was written into fifty statements that were subsequently arranged into a true or false test format. It was reasoned that this format would permit response to more items than would other test formats.

The measure of reading comprehension theory was given the descriptive name of Reading Comprehension Theory Test and was submitted to a panel of three reading authorities for response to the items and criticism. The reactions of the panel were noted and utilized in the reframing of certain questions, the omission of others, and the addition of nine new items.

At this point it was reasoned that the content of the test appeared reasonably valid. It was suggested, however, that, if the test were indeed valid, it should be capable of discriminating between experience groups with different theoretical and experiential backgrounds (Turner and Fattu (55)). The following three criterion groups were chosen for such testing: Group I - reading specialists; Group II - reading teachers; and Group III - college students at the beginning of their teacher education programs. Reading specialists were defined as people who possessed the Ph.D. or its equivalent in reading and/or language arts and who had actually taught college reading courses and/or worked in reading clinic operations. Reading teachers included any degree teacher who had taught in the elementary grades for at least one year. The college students were sophomores or juniors at the University of Wisconsin who were beginning their introductory courses in elementary education.

It was reasoned that significant differences would occur among the three groups if the measure was valid. Table 1 reveals that the means of the three experience groups varied greatly with the reading specialists attaining an average score of 51.30 as opposed to mean scores of 44.10 and 37.36 for the reading teachers and college students, respectively.

TABLE 1

MEANS AND VARIANCES FOR COLLEGE STUDENTS, READING TEACHERS AND READING SPECIALISTS ON THE 59 ITEM READING COMPREHENSION THEORY TEST

Groups	n	Range	$\overline{X}$	s	s^2
College Students	58	29-46	37.36	16.45	4.06
Reading Teachers	87	30-53	44.10	9.77	3.13
Reading Specialists	11	46-57	51.30	10.02	3.17

Table 2 further indicates by analysis of variance that highly significant differences exist among the means of the three experience groups. Thus, it was demonstrated that the theory test significantly differentiated between the groups.

An application of the Scheffé (45) test revealed that the differences were significant between the three groups.

TABLE 2

ANALYSIS OF VARIANCE OF MEAN SCORES OF THREE EXPERIENCE GROUPS ON THE READING COMPREHENSION THEORY TEST

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	$F_{.99}$
Total	4354	155			
Betweem means	3496	2	1748.00	311.6	4.75
Within groups	858	153	5.61		

The reliability of the Reading Comprehension Theory Test was assessed on the basis of the internal consistency of the items. An application of Baker's Generalized Item and Test Analysis (5) program revealed a Hoyt Reliability coefficient of .69.*

Reading-Comprehension Solicitation-Response Inventory

The Reading Comprehension Solicitation-Response Inventory dealt only with those teacher solicitations and student responses that were concerned with the reading content read or to be read. Thus, solicitation-response activity about classroom management factors and information factors not directly found in the content of the reading selection were considered outside the concern of this study.

Initially, the problem of greatest concern was to develop an instrument that would be capable of describing all possible solicitation-response activity about reading content. Thus, the instrument was compared with the numerous thinking and reading comprehension models to determine whether the instrument possessed face validity. Following such examination, the instrument was submitted to graduate education students and education professors for their assessment of the descriptive completeness of the instrument.

After discussion of the instrument it was decided that it should be tested in a pilot study to determine if the categories could readily describe solicitation-response activity in actual classrooms. Permission was obtained from the Stoughton, Wisconsin Public Schools for the recording of reading classes in a second, fourth, and sixth grade classroom. Recordings of three consecutive days of reading lessons were subsequently made. Records were kept regarding the substantive content of each portion of the lesson in order that judgments could be made about the nature of the thinking outcomes. Following the completion of the recording sessions the taped material was transcribed to written typescripts and judged by the investigator. After minor adjustments were made in the Reading Comprehension Solicitation-Response Inventory a randomly-selected sample of each of the three grades was judged by the investigator and one other judge. Table 3 illustrates the frequency and percentage of agreement of the two judges on 299 solicitations.

---

*For a detailed discussion of the Hoyt Reliability test the reader is referred to the following article. Hoyt, C J. "Test Reliability Estimated by Analysis of Variance," Psychometrika, Vol. 6, 1941, pp. 153-60.

TABLE 3

FREQUENCIES AND PERCENTAGES OF AGREEMENTS AND DISAGREEMENTS OF TWO JUDGES ON 299 SOLICITATIONS*

Category	Agree	Disagree	Total	Per Cent Agree	Per Cent Disagree	Per Cent Total
Recognition	42	15	57	73.7	26.3	100
Recall	121	29	150	80.6	19.4	100
Translation	2	3	5	40.0	60.0	100
Conjecture	28	18	46	60.9	39.1	100
Explanation	24	5	29	82.7	17.3	100
Evaluation	23	9	32	71.9	28.1	100

As indicated in Table 3, agreement was greatest in the recall and explanation categories while disagreement was most pronounced in the translation and conjecture categories. With the exception of the translation and conjecture dimensions agreement appeared rather high.

---

*Note - Totals do not add up to 299 as disagreements frequently existed between two categories and are counted in both.

Differentiation as to whether or not the teacher was asking for a recognition or recall response was most difficult and contributed to the disagreements among these categories. The determination of whether an item is recognition or recall depends upon whether or not the pupils have read the materials over which the questions were asked. In many instances such cues were not available because the classes were not observed during the taping. This pointed up the necessity of recording such cues in the main study.

The translation category as witnessed in Table 3 was used very infrequently. Seemingly, the infrequency resulted in sharply mixed judgments.

Confusion between the conjecture and judgment categories appeared to account for much of the disagreement in the conjecture category. The judges labeled as conjectural many solicitations which were asking for the student to make only a simple value statement judgment on a proposition formulated by the teacher. This disagreement pointed up the necessity for clarifying the distinctions between the two categories. Such distinctions were clarified prior to the final study.

Table 4 represented the frequencies and percentages of agreements and disagreements of the two pilot study judges on a sample of solicitation-response units from the main study.

Agreements by the two judges in Table 4 were higher in every instance except one (explanation) than the agreement between the two on the pilot tapes. Reliability between the two judges was 90 per cent or better on four of the six categories.

TABLE 4

FREQUENCIES AND PERCENTAGES OF AGREEMENTS AND DISAGREEMENTS OF TWO JUDGES ON 206 SOLICITATIONS*

Category	Agree	Disagree	Total	Per Cent Agree	Per Cent Disagree	Per Cent Total
Recognition	27	3	30	90.0	10.0	100
Recall	121	8	129	93.8	6.2	100
Translation	3	0	3	100.0	0.0	100
Conjecture	7	3	10	70.0	30.0	100
Explanation	8	2	10	80.0	20.0	100
Evaluation	30	3	33	90.9	9.1	100

Congruence-Incongruence System

Congruence as envisioned in the conceptual framework involved the determination of the reciprocity between the substantive intent sought by the teacher and the substantive intent supplied by the student.

Interjudge agreement by two judges on 220 responses was 87 per cent, which demonstrated that congruence or incongruence could be readily identified.

Solicitation-Response Unit

The Solicitation-Response Unit was the name given to a segment of teacher-pupil verbal interaction about a given subject. As such, it involved (a) an initiating statement by the teacher, (b) sustaining statements which may be student responses or additional teacher cueing statements, and (c) a closing phase which signals that the unit is terminated. A unit can be said to exist only if an initiating statement occurs. It is not imperative that step (b) occurs as, by definition, such sustaining activity may be presumed cognitive.

---

*Note - Totals do not add up to 206 as disagreements exist between categories and are counted in both.

Interjudge agreement relative to the Solicitation-Response Unit was high as revealed by a 90 per cent agreement ratio between two judges on 218 units. Additional support for its reliability and validity was seen in the parallel structures tested by Smith and Meux (47), Block (10), Aschner and Gallagher (2), and Bellack (8).

Solicitation-Response Episode

Solicitation-Response Episodes were combinations of Solicitation-Response Units that resulted in actions identified as setting-purpose-follow-up, verification, justification, and judgmental.

The Solicitation-Response Episode appeared readily recognizable by the fact that two judges were in agreement 80 per cent of the time on 146 episodes. The reliability check of episodes was made on the main study because of a shortage of episodes in the pilot study protocols.

The Sample

The following information describes the sample selection and the teacher and student components of the sample.

Teachers

The decision was made to select four classes at each grade level (second, fourth, and sixth). As previously indicated, only classes with three-reading-group structures were to be selected. With these factors noted, the San Angelo, Texas, Public School System superintendent was contacted and his support obtained for the drawing and measuring of such a sample.

San Angelo's sixteen elementary schools employed 228 teachers in grades one through six of which 37 were second-grade teachers, 37 were fourth-grade teachers, and 32 were sixth-grade teachers. In order to expedite the sampling process the researcher obtained a list of all second-, fourth-, and sixth-grade teachers and drew a random sample of four classes in each of the three grades.

Table 5 illustrates the sex, age, teaching experience, college degree, reading methods background, and number of students of each study teacher.

TABLE 5

CHARACTERISTICS OF TEACHER SAMPLE

Grade	Sex	Age	Teaching Exp. (Years)	Highest Degree	No. Students
2	F	26	1	B.S.	28
2	F	25	3	B.S.	31
2	F	55	24	B.A.	27
2	F	54	29	B.A.	33
4	F	25	4	B.S.	24
4	F	59	29	M.Ed.	27
4	F	29	7	B.S.	23
6	F	50	18	M.Ed.	30
6	M	55	32	M.A.	34
6	M	43	2	B.A.	26
6	F	45	5	B.S.	24
		42.7	13.7		27.7

As may be seen in Table 5 there was a wide range of age in the group, varying from 25 to 59 years, with a mean of 42.7. Also teaching experience varied from 1 to 32 years with a mean of 13.7 years. All teachers possessed at least a bachelors degree while 3 of the 12 possessed masters.

Class size varied from a low of 23 to a high of 34 with a mean of 27.7 evident.

Students

Tables 6 and 7 describe the sex, age, I.Q., reading comprehension level, and father occupational level (25) factors of the student sample. Table 6 illustrates this data for each of the reading groups in the twelve classes while Table 7 represents the data for the composite top, middle, and low reading groups of each of the three grades.

It should be noted that three reading group structures were found in each of the second and fourth grade classes but not in the sixth grade. In the sixth grade only one of the four classes actually operated in three reading groups at the time of observation. One sixth-grade class operated as a single group while two others operated with two groups. Apparently, the teachers conceptualized three groups but did not necessarily vary instruction for the conceptualized groupings.

Data Collection Procedures

Permission was obtained from the principals and sample teachers and a schedule of observations confirmed. No description of the nature of the research was given to the teachers or to anyone in the school system for fear that a performance might be conditioned. Rather, all parties were instructed that the investigator wished to observe and record typical reading lessons of the three groups within each classroom. The teachers were asked to provide the investigator with the data that appeared in Tables 5, 6, and 7 and to complete the Reading Comprehension Theory Test.

Prior to entering the classroom for observation and taping sessions a list of problems confronted in the pilot study situation was drawn up

TABLE 6

CHARACTERISTICS OF SECOND, FOURTH, AND SIXTH GRADE PUPIL SAMPLES

Code	Grade	Rd. Group	Male	Female	Age Range (Months)	Mean Age (Months)	I.Q. Range	Mean I.Q.	Rd. Range (%ile)	Rd. Mean (%ile)	Father Occ.	Mean
2001	2	Top	8	3	81 - 95	89	97 - 138	119	76-99	91	2 - 5	3.8
	2	Middle	7	3	84 - 92	89	95 - 129	111	24-94	71	4 - 6	5.0
	2	Low	4	3	86 - 95	90	86 - 107	97	4-76	49	2 - 5	3.2
2002	2	Top	5	6	83 - 99	91	88 - 122	108	44-98	87	1 - 5	3.1
	2	Middle	4	6	84 - 96	89	85 - 127	111	16-94	67	2 - 5	3.2
	2	Low	5	5	85 - 95	92	94 - 126	110	14-50	41	2 - 6	4.0
2003	2	Top	2	5	85 - 93	90	91 - 124	111	50-99	78	3 - 5	4.4
	2	Middle	5	5	85 - 95	91	68 - 121	100	38-70	53	3 - 6	4.8
	2	Low	7	3	85 - 95	88	91 - 130	112	12-50	30	3 - 6	4.7
2004	2	Top	4	8	85 - 96	92	89 - 142	118	11-99	86	4 - 6	5.0
	2	Middle	3	9	85 - 95	83	67 - 121	91	22-96	46	5 - 7	5.5
	2	Low	8	1	86 -103	93	45 - 133	83	4-92	46	4 - 7	5.1
4001	4	Top	4	5	110 -131	116	99 - 125	117	46-78	65	4 - 6	5.3
	4	Middle	6	2	110 -119	114	104 - 117	109	26-62	45	2 - 6	4.1
	4	Low	4	3	122 -148	132	71 - 91	82	1-20	9	4 - 7	6.4
4002	4	Top	6	8	108 -131	116	93 - 123	109	14-74	35	2 - 7	5.0
	4	Middle	4	2	119 -143	128	82 - 106	97	6-40	19	5 - 6	5.5
	4	Low	2	5	110 -124	118	81 - 113	98	1-11	5	5 - 7	6.1
4003	4	Top	4	3	107 -128	118	98 - 115	105	24-68	46	2 - 6	4.8
	4	Middle	6	2	123 -153	130	78 - 103	93	14-46	28	5 -	5.0
	4	Low	6	4	117 -133	125	81 - 112	94	8-32	19	1 - 5	4.1
4004	4	Top	6	3	113 -129	117	92 - 138	121	33-96	71	4 - 6	5.0
	4	Middle	4	2	113 -160	127	99 - 120	109	29-62	42	5 - 7	5.2
	4	Low	4	4	110 -164	135	64 - 101	80	2-65	26	4 - 6	5.0
6001	6	Top	6	11	133 -151	140	80 - 118	100	28-94	52	4 - 7	5.3
	6	Middle	7	4	134 -155	146	70 - 108	90	1-34	19	5 - 7	6.0
	6	Low	1	1	149 -151	150	79	79	8-22	15	6 - 7	6.5
6002	6	Top	3	7	131 -152	140	90 - 131	114	54-99	88	1 - 5	3.7
	6	Middle	7	8	130 -154	142	84 - 124	108	26-94	62	5 - 7	4.9
	6	Low	6	3	132 -161	142	90 - 102	96	40-58	49	4 - 5	4.9
6003	6	Top	7	1	121 -152	134	104 - 124	111	34-76	53	2 - 5	3.4
	6	Middle	5	4	119 -150	138	92 - 114	103	15-76	43	1 - 6	4.2
	6	Low	5	4	121 -164	146	83 - 114	100	14-58	35	1 - 5	3.7
6004	6	Top	8	8	130 -151	141	89 - 121	104	24-92	64	4 - 7	4.9
	6	Low(Middle)	3	5	135 -150	144	82 - 113	92	18-90	43	5 - 7	5.5

TABLE 7

CHARACTERISTICS OF SECOND, FOURTH, AND SIXTH GRADE SAMPLE READING GROUPS

Grade	Group	Male	Female	Age Range (Months)	Mean Age (Months)	I.Q. Range	Mean I.Q.	Comp. Range	Mean Comp.	Occ. Range	Mean Occ.
2	Top	19	22	81 - 99	90.43	85 - 142	115.41	11 - 99	86.45	1 - 6	4.10
2	Middle	19	23	84 - 96	89.71	67 - 129	101.26	16 - 96	62.12	2 - 7	4.67
2	Low	24	12	85 -103	91.05	45 - 133	100.33	4 - 92	40.91	2 - 7	4.33
2	Total	62	57	81 -103	90.36	45 - 142	105.91	4 - 99	64.13	1 - 7	4.37
4	Top	20	19	107 -131	116.82	92 - 138	103.94	14 - 96	47.52	1 - 7	4.84
4	Middle	20	8	110 -160	124.35	78 - 120	101.48	6 - 62	33.51	2 - 7	4.92
4	Low	16	16	110 -164	127.34	64 - 113	88.82	1 - 65	14.00	1 - 7	5.13
4	Total	56	43	107 -164	122.35	64 - 138	98.63	1 - 96	32.56	1 - 7	4.95
6	Top	24	27	121 -152	139.31	80 - 131	106.12	24 - 99	62.91	1 - 7	4.67
6	Middle	22	21	119 -155	142.39	70 - 124	99.30	1 - 94	43.48	1 - 7	4.95
6	Low	12	8	121 -164	144.60	79 - 114	96.20	8 - 58	33.50	1 - 7	4.47
6	Total	58	56	119 -164	141.40	70 - 131	101.95	1 - 99	50.47	1 - 7	4.78
TOTAL	X						102.25		49.94		4.67

in order that these problems might be alleviated in the major study. Primary among the problems encountered were the following:

1. Discrimination difficulties in the use of some of the Reading Comprehension Solicitation Response Inventory categories developed because of the lack of sufficient cues about the student's background for answering certain questions. Most frequent were problems of distinguishing between recall and recognition.
2. Pupil response clarity on the recording tapes was frequently inaudible.
3. Making typescripts from the recorded tape was difficult because the recording machine could not be back-spaced readily.

In order to solve the first problem of cues it was determined that an observer would be present at all times and would make written notes of all cues that would be crucial to the identification of solicitations and responses.

The problem of student response clarity was approached from the standpoint of equipment and classroom arrangement. A more sensitive Ureh microphone was used and the students were gathered into tighter reading circles. Also, during the first day of recording it was found that fine student clarity could be achieved if the teacher would hold the microphone and direct it to the students as they would respond.

A Uher 5000 tape recorder solved the problems involved in typescripting. The machine permitted the observers to record at a speed of 15/16. Thus, when preparing typescripts the typist could flip the reel slightly and back the tape up when needed.

For the actual investigation, the principal investigator and a specially trained research assistant divided the twelve sample classrooms and thirty-six observations into a nine-day schedule with two extra days provided for makeups. Each teacher was observed and recorded for three consecutive days.

In order to facilitate an accurate transcription the decision was made that each observer would transcribe each day's tapesin the evening in order that gaps might be filled in while memories of the events were fresh. This procedure was employed and it was felt that the transcriptions were more valid than they would have been if the transfer had been postponed.

Analysis System for Protocols

This section concerns the handling of the typescripts. After the tapes were transcribed to typescripts the researcher employed the following marking scheme in the analysis:

Solicitations and responses were numbered according to the kind of thinking outcome called for and subsequently given. The number key follows:

(1) Recognition
(2) Recall
(3) Translation
(4) Conjecture
(5) Explanation
(6) Evaluation

Sustaining activity on the part of the teacher which served to hold the unit open was indicated by a slash mark (/). No distinction was made as to whether the sustaining act was extending, clarifying, or cueing.

The following code system was used to mark response activity not included under the nine thinking outcomes categories:

(O) Response not allowed by the teacher
(-) Response allowed by the teacher but no student responds
(D) Student responds that he does not know the answer
(I) Student responds but his response is illogical to judge
(N) Student responds but his response is not clearly audible to judge
(Re) Student repeats a previous response.

In addition to noting the above factors about student responses and the nature of the thinking outcomes involved, the judges had to determine whether or not the student responses were congruent with the substantive intent of the teacher as indicated in his solicitation. For this purpose a plus (+) was used to indicate congruence and a (-) for lack of congruence.

Other symbols were employed for indicating areas that were not within the scope of the current study in order that these items could be screened from focus. As suggested previously, the study sought to describe only the solicitation-response activity directly concerned with the reading content being studied. Thus, indirectly related solicitation activity and solicitation activity concerned with classroom management or rhetorical questioning was eliminated. Descriptions of the symbols that mark such solicitation activity follow:

(X)	Managemental or rhetorical solicitations and responses wherein thought about the content is not the focus.
(PK)	Solicitation activity that is primarily concerned with personal knowledge or experience and does not relate directly to the reading content.

To identify Solicitation-Response Units About Reading Content two horizontal lines were employed to section off the previously noted symbol designations. Brackets facing the left margin and enclosing the component Solicitation-Response Units were employed to illustrate Solicitation-Response Episodes About Reading Content.

The following represents a small section of typescript that illustrates the use of the aforementioned symbol system. Note that the teacher solicitations and comments extend further toward the left margin of the paper than the student responses which are indented.

2	What did Dr. Prince do to help Mr. Sparks?
2+	Well the cows went running down the wrong direction so he went and got two ropes and he started joining him. (p. 119, par. 3)
X	All right, let's look over at page 119.
7	Do you think that Mr. Sparks troubles are over at the bottom of that page, Debbie?
7+	Yes.
5	Why: Why do you think his troubles are over?
5-	Because he's sitting down on the bench to rest.
X 7	Because he's sitting down and ready to rest. Well look at the picture on page 120. In this picture Mr. Sparks is talking to someone else. Does he look like his troubles are over, Carl?
7+	No.
1	I'll bet he wishes all the cows and cattle were sold for beefsteak. Let's read the page and find out who this little old lady is and what she said when she finally unlatched her door. (p. 120, par. 2, 4, 5, 7)
0	(Children read silently)
2	Who was this little old lady, Debbie? (p. 121, par. 1)
2+	Granny Sweet.

Statistical Procedures

Statistical analysis procedures for the three phases of the study are discussed in the following order: teacher knowledge of reading comprehension, teacher practices in comprehension development, and relations between teacher practices and knowledge.

The following decisions were made concerning the initial research questions pertaining to teacher performance on the Reading Comprehension Solicitation-Response Inventory. The first decision related to the delineation of teacher scores into ratings of high, average, or low and involved the arbitrary imposition of bands of performance. Utilizing the frequency distribution of Criterion Group II (Reading Teachers) the decision was made that average scores would be those which were either one standard deviation above the mean of 44.10 or one standard deviation below the mean. Thus, high scores would include those scores which were over one standard deviation above the mean and low scores would be those scores which were over one standard deviation below the mean. A second decision area concerned the determination of the prominency of the differences between scores. It was determined that prominent differences would be said to exist between high scores and low scores.

The various aspects of teacher practice were to be illustrated in frequency distributions in accordance with the research questions. As frequency totals can vary sharply between grades and groups, it was decided (and written into the research questions) that the frequency data would be translated into percentages data which would facilitate the meaningful interpretation of the data.

With regard to the reading comprehension outcomes dimension and the congruence-incongruence dimension of teacher practices, it was decided that Chi-square tests would be applied to make determinations relative to the chance possibilities of attaining the observed distribution patterns. The source of the Chi-square test was Walker and Lev (57).

For the relations dimensions of the study, correlations were to be run between the low scoring and high scoring teachers (as based on standard deviations from the mean) and their frequencies and percentages of reading comprehension outcomes solicited, congruent and incongruent units, Solicitation-Response Unit frequencies and types, and Solicitation-Response Episode frequencies and types.

CHAPTER FOUR

RESULTS

In accordance with the format of the study this chapter reports the results of the following dimensions: teacher knowledge of comprehension theory, teacher practices in comprehension development, and the relations between teacher practices and knowledge.

Teacher Knowledge of Comprehension Theory

> Question One: What theoretical knowledge ratings (high, average, or low) do the twelve sample teachers obtain on the Reading Comprehension Theory Test?"

Table 8 reveals the scores and ratings of the twelve sample teachers in hierarchial order, ranging from highest to lowest.

As seen in Table 8, half of the teachers rated average with regard to the definitions previously established and half rated low. The mean of the group of twelve teachers was 38.33 which corresponded rather closely with the mean of 37.36 for the inexperienced criterion group of college students.

Although the sampling of twelve teachers from the school district could not be considered highly representative, it does seem strange that the scores were so strongly oriented toward the lower side of the mean of Criterion Group II. Presumably, Criterion Group II may not have been truly representative of the teaching group from which the sample of twelve was drawn.

---

*See Appendix I for a copy of the Reading Comprehension Theory Test.

TABLE 8

SCORES AND RATINGS OF TWELVE SAMPLE TEACHERS ON THE READING COMPREHENSION THEORY TEST

Teacher Number	Grade	Test Score	Rating
6004	6	43	Average
2002	2	42	Average
2003	2	42	Average
4001	4	42	Average
4003	4	42	Average
2001	2	41	Average
4002	4	39	Low
4004	4	39	Low
6002	6	38	Low
2004	2	36	Low
6003	6	29	Low
6001	6	27	Low

Question Two: Do prominent differences exist between the ratings of any of the twelve sample teachers?

As previously determined, prominent differences were said to exist between those scores which were one standard deviation above the mean and those which were one standard deviation below the mean. From the rating data presented in Table 8 it is apparent that none of the differences in scores were considered prominent in terms of the foregoing criterion.

The scores of the twelve teachers appeared very close with six scores varying only three points. Only in the instance of the two lowest scores (29 and 27) did there appear to be much dispersion among the group's scores.

The scores of the sixth-grade teachers presented an interesting situation in that one was the highest score of all teachers and the other three occupied three of the four lowest positions in the distribution.

Teacher Practices in Comprehension Development

Teacher practices in comprehension development are broken down into the following dimensions: reading comprehension outcomes, congruence-incongruence, and solicition-response interaction.

Reading Comprehension Outcomes Dimension*

Question One: What are the frequencies and percentages of each of the six solicitation types of the Reading Comprehension Solicitation-Response Inventory?

Table 9 shows that recall solicitations were most abundant as indicated by the fact that 56.9 per cent of all solicitations were of this type. Recognition and evaluation solicitation activities appeared similarly abundant as evidenced by their respective percentages. Conjecture and explanation solicitations appeared most infrequently while translation solicitations were almost non-existent.

TABLE 9

FREQUENCIES AND PERCENTAGES OF SIX SOLICITATION TYPES

Recognition		Recall		Translation		Conjecture		Explanation		Evaluation	
f	%	f	%	f	%	f	%	f	%	f	%
252	13.5	1056	56.9	12	.6	120	6.5	133	7.2	284	15.3

Question Two: What are the frequencies and percentages of each of the six solicitation types of the Reading Comprehension Solicitation-Response Inventory in the second, fourth, and sixth grades?

The frequencies and percentages of solicitation types in the three grades are illustrated in Table 10. Also, a Chi-square test score of

---

*The Reading Comprehension Solicitation-Response Inventory which was used for measuring reading comprehension outcomes can be found in Appendix II.

155.38 was significant at the .001 level. This indicates that the relationship could have happened by chance only one time in a thousand.

TABLE 10

FREQUENCIES AND PERCENTAGES OF SIX SOLICITATION
TYPES IN GRADES TWO, FOUR, AND SIX

Grade	Recog.		Recall		Transl.		Conjec.		Explan.		Evalua.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Two	100	12.3	584	66.5	2	.2	50	5.7	33	3.8	101	11.5	878	100
Four	118	16.3	351	48.4	4	.6	30	6.9	54	7.4	148	20.4	725	100
Six	26	10.2	121	47.6	6	2.4	20	7.9	46	18.1	35	13.8	254	100
Total	252	13.5	1056	56.9	12	.6	120	6.5	133	7.2	284	15.3	1857	100

$X^2 = 155.38$ $P < .001$

Solicitation frequency was greatest in the second grade where 878 solicitations were recorded. Frequencies declined in accordance with increasing grade levels with the sharpest declines in the sixth grade.

As Table 10 indicates, the patterns for the three grades were very different. Recall solicitation activity was the dominant form in the second grade and was much more apparent in that grade than in the higher grades. The fourth- and sixth-grade breakdowns were fairly similar to one another except that fourth-grade teachers tended to deal more with recognition and evaluation while the sixth-grade teachers concerned themselves more with the inferential categories of conjecture and explanation.

Question Three: What are the frequencies and percentages of each of the six solicitation types of the Reading Comprehension Solicitation-Response Inventory in the combined top, middle, and low groups?

Table 11 illustrates the frequencies and percentages of the six solicitation types as found in the composite top, middle, and low groups of grades two and four. Grade six could not be included in this aspect of the study because of the lack of a true three-reading group setup in three of the four classes.

TABLE 11

FREQUENCIES AND PERCENTAGES OF SIX SOLICITATION TYPES IN THE COMBINED TOP, MIDDLE, AND LOW READING GROUPS OF GRADES TWO AND FOUR

Group	Recog.		Recall		Transl.		Conject.		Explan.		Evalua.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Top	64	11.5	308	55.0	5	.9	40	7.1	45	8.0	98	17.5	560	100
Mid.	108	17.4	350	56.5	1	.2	40	6.5	23	3.7	97	15.7	619	100
Low	54	12.7	277	65.4	0	0.0	20	4.7	19	4.5	54	12.7	424	100
Total	226	14.1	935	58.3	6	.4	120	6.3	87	5.4	232	14.5	1603	100

$X^2 = 37.91$ $P < .001$

Chi square revealed the data pattern in Table 11 could not have happened by chance at the .001 level.

Second and fourth grade teachers tended to solicit recall outcomes more frequently from low reading groups than from middle and high groups according to the information in Table 11. Whereas they solicited less recall from middle and high groups, these teachers solicited more inferential ane evaluative outcomes from the higher group students.

Question Four: What are the frequencies and percentages of each of the six solicitation types of the Reading Comprehension Solicitation-Response Inventory in the top, middle, and low groups of each grade?

Table 12 illustrates the frequencies and percentages of the six solicitation types in the combined top, middle, and low groups of the second grade. Chi-square testing indicated that the relationship could have happened one time in a thousand.

TABLE 12

FREQUENCIES AND PERCENTAGES OF SIX SOLICITATION TYPES IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF GRADE TWO

Group	Recog.		Recall		Transl.		Conjec.		Explan.		Evalua.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Top	25	8.8	186	65.3	1	.3	25	8.8	19	6.7	29	10.1	285	100
Mid.	65	17.6	244	66.1	1	.3	14	3.8	6	1.6	39	10.6	369	100
Low	18	8.0	154	68.8	0	.0	11	4.9	8	3.6	33	14.7	244	100
Total	108	12.3	584	66.5	2	.2	50	5.7	33	3.8	101	11.5	878	100

$X^2 = 36.54$ $P < .001$

As Table 12 reveals, solicitation frequency was greatest in the middle group and least in the low group. Percentages indicate that the patterns of solicitation were very similar among the three groups, although inferential solicitations were more abundant in the top group and recognition solicitations were more abundant in the middle group.

Table 13 presents the frequencies and percentages of the six solicitation types in the fourth grade. A Chi-square of 40.53 is significant at the .001 level. This indicates that the pattern could have happened by change only one time in a thousand.

TABLE 13

FREQUENCIES AND PERCENTAGES OF SIX SOLICITATION TYPES IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF GRADE FOUR

Group	Recog.		Recall		Transl.		Conjec.		Explan.		Evalua.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Top	39	14.2	122	44.4	4	1.3	15	5.5	26	9.5	69	25.1	275	100
Mid.	43	17.2	106	42.4	0	0	26	10.4	17	6.8	58	23.2	250	100
Low	36	18.0	123	61.5	0	0	9	4.5	11	5.5	21	10.5	200	100
Total	118	16.3	351	48.4	4	.6	50	6.9	54	7.4	148	20.4	725	100

$X^2 = 40.53$ $P < .001$

Solicitation frequency was greatest in the top group of the fourth grade and least in the low group as indicated by Table 13.

Fourth grade teachers solicited many more recall outcomes from the low group than from the middle and high groups as Table 13 indicates. Conversely, more middle and high group solicitation activity was found in the areas of conjecture, explanation, and evaluation.

As previously stated, the sixth-grade portion of the study was altered by the absence of three-reading-group structures. Thus, the sixth-grade description contained in Table 14 illustrates a two-group situation which was observed in three of the four classes.

Chi-square testing of the observed and expected frequencies of Table 14 indicated a high chance possibility for this grade. The differences were significant at the .10 level.

According to Table 14, the frequency of solicitation activity was greatest in the lower of the two groups. Also, the solicitation frequencies of the sixth-grade groups were much lower than those of the second- and fourth-grade groups.

TABLE 14

FREQUENCIES AND PERCENTAGES OF SIX SOLICITATION TYPES IN THE COMBINED TOP AND LOW GROUPS OF GRADE SIX

Group	Recog.		Recall		Transl.		Conjec.		Explan.		Evalua.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Higher	9	13.2	24	35.3	3	4.4	9	13.2	16	23.6	7	10.3	68	100
Lower	14	16.1	48	55.2	1	1.2	5	5.7	10	11.5	9	10.3	87	100
Total	23	14.8	72	46.5	4	2.6	14	9.0	26	16.8	16	10.3	155	100

$X^2 = 10.25$ $P \leq .10$

Table 14 indicates that the sixth-grade teachers spent a substantially greater proportion of their recall solicitations on the lower group. Conversely, they solicited a considerably higher percentage of conjectural and explanation outcomes from the higher group.

Congruence-Incongruence Dimension

Congruence referred to the reciprocity between the substantive intent sought by teachers in their solicitations and the substantive intent supplied by the students' responses.

Question Five: What are the frequencies and percentages of congruence and incongruence?

A total view of the frequencies and percentages of congruence and incongruence is seen in Table 15. Chi-square indicates that the chance possibility of such a distribution is at the .05 level.

It should be pointed out that the congruent and incongruent units represented in Table 15 illustrate only units that were completed with an audible response. All solicitations not followed by audible responses were omitted from this section.

TABLE 15

FREQUENCIES AND PERCENTAGES OF CONGRUENCE AND INCONGRUENCE OF FIVE SOLICITATION TYPES

	Recog.		Recall		Transl.		Conjec.		Explan.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Congruent	108	93.9	893	90.3	6	75	98	94.2	100	85.5	1205	90.4
Incongruent	7	6.1	96	9.7	2	25	6	5.8	17	14.5	128	9.6
Totals	115	100.0	989	100.0	8	100.0	104	100.0	117	100.0	1333	100.0

$X^2 = 9.64$ $P < .05$

As Table 15 reveals, 90.4 per cent of the audible units terminated in congruence while 9.6 per cent ended in incongruence. Thus, nearly one in ten units terminated without congruence. The explanation for this fact was largely that teachers frequently accepted incongruent responses as congruent. Presumably, these teachers were not familiar with the answers to the questions they were asking.

Congruence appeared to be related to the nature of the cognitive task as seen in Table 15. Tasks such as conjecture (94.2 per cent congruence) and recall (90.3 per cent congruence) appeared subject to higher congruence than tasks such as translation (75 per cent congruence) and explanation (85.5 per cent congruence). Conceivably, conjectural solicitations allow a rather wide range of response and, consequently, congruence, whereas explanation limits the range of response to a basic rationale which must be supplied if congruence is to be attained.

> Question Six: What are the frequencies and percentages of congruence and incongruence in the seeond, fourth, and sixth grades?

Table 16 illustrates the frequencies and percentages of congruence and incongruence in the composite second, fourth, and sixth grades. Chi-square revealed that the pattern found in the table could not have happened by chance at the .01 level.

Total congruence was highest in second grade. Apparently, the incidence of congruence in the recall area was a determining factor in the total congruence percentage as seen by the relationships of these two factors in the second and fourth grades.

> Question Seven: What are the frequencies and percentages of congruence and incongruence in the combined top, middle, and low groups of the sample?

Table 17 presents the frequency and percentage data relative to' congruence and incongruence in the combined top, middle, and low groups in the combined second and fourth grades.

A Chi-square test of the observed and expected frequencies of Table 17 was significant at the .01 level. This indicated that the pattern could not have happened at this chance level.

Congruence was highest in the top reading group as seen in Table 17. Middle- and low-group congruence totals were nearly the same.

> Question Eight: What are the frequencies and percentages of congruence and incongruence in the top, middle, and low groups of each grade?

TABLE 16

	Recog.		Recall		Transl.		Conjec.		Explan.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Second												
Congruent	35	94.6	520	92.5	1	100.0	39	95.1	20	80.0	615	92.3
Incongruent	2	5.4	42	7.5	0	0.0	2	4.9	5	20.0	51	7.7
Total	37	100.0	562	100.0	1	100.0	41	100.0	25	100.0	666	100.0
Fourth												
Congruent	57	91.9	297	88.1	1	50.0	43	91.5	43	86.0	441	88.6
Incongruent	5	8.1	40	11.9	1	50.0	4	8.5	7	14.0	57	11.4
Total	62	100.0	337	100.0	2	100.0	47	100.0	50	100.0	498	100.0
Sixth												
Congruent	16	100.0	76	84.4	4	80.0	16	100.0	37	88.1	149	88.2
Incongruent	0	0.0	14	14.6	1	20.0	0	0.0	5	11.9	20	11.8
Total	16	100.0	90	100.0	5	100.0	16	100.0	42	100.0	169	100.0

$X^2 = 63.66$ $P < .01$

TABLE 17

FREQUENCIES AND PERCENTAGES OF CONGRUENCE AND INCONGRUENCE OF FIVE SOLICITATION-RESPONSE UNIT TYPES IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF GRADES TWO AND FOUR

	Recog.		Recall		Transl.		Conjec.		Explan.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Top Group												
Congruent	22	95.4	282	94.0	2	66.7	29	90.6	35	89.7	370	93.2
Incongruent	1	4.3	18	6.0	1	33.3	3	9.4	4	10.3	27	6.8
Total	23	100.0	300	100.0	3	100.0	32	100.0	39	100.0	397	100.0
Middle Group												
Congruent	48	92.3	301	89.6	0	0.0	33	91.7	15	78.9	397	89.6
Incongruent	4	7.7	35	10.4	0	0.0	3	8.3	4	21.1	46	10.4
Total	52	100.0	336	100.0	0	0.0	36	100.0	19	100.0	443	100.0
Low Group												
Congruent	22	91.7	234	89.0	0	0.0	20	100.0	13	76.5	289	89.4
Incongruent	2	8.3	29	11.0	0	0.0	0	0.0	4	23.5	35	10.6
Total	24	100.0	263	100.0	0	0.0	20	100.0	17	100.0	324	100.0

$X^2 = 38.95$ $P < .01$

Tables 18 and 19 present the second- and fourth-grade congruence pictures on the three-reading-group basis while Table 17 presents the two-reading-group congruence picture as seen in the sixth grade.

Table 18 represents the frequencies and percentages of congruence and incongruence in the three reading groups of the second grade. Chi-square revealed that the congruence-incongruence pattern was significant at the .001 level.

Congruence was highest in the top reading group of the second grade sample as revealed in Table 18. Congruence appeared to be the reflection of the congruence situation in the recall and recognition areas.

In Table 19 a breakdown of congruence in the fourth-grade groups is seen. Chi-square revealed that this pattern was significant at the .02 level.

The combined top group in Table 19 had the highest total percentage of congruence while the low group had the lowest percentage of congruence. In comparison with overall congruence percentages in the second grade, the fourth grade congruence totals appeared very low. The data suggested that fourth-grade teachers accept more incongruent responses as congruent than do second-grade teachers.

Table 20 illustrates the congruence frequencies and percentages in the two-reading-group sixth grade. Chi-square indicated that this pattern was significant at the .02 level.

A marked difference in total congruence was noted between the higher and lower groups in Table 20. As in previous tables, the total congruence was largely a reflection of recall congruence.

TABLE 18

FREQUENCIES AND PERCENTAGES OF CONGRUENCE AND INCONGRUENCE OF FIVE SOLICITATION-RESPONSE UNIT TYPES IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF GRADES TWO

	Recog.		Recall		Transl.		Conjec.		Explan.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Top Group												
Congruent	4	100.0	176	96.2	1	100.0	16	88.9	11	78.6	208	94.5
Incongruent	0	0.0	7	3.8	0	0.0	2	11.1	3	21.4	12	5.5
Total	4	100.0	183	100.0	1	100.0	18	100.0	14	100.0	220	100.0
Middle Group												
Congruent	26	92.1	210	90.1	0	0.0	12	100.0	4	80.0	252	90.6
Incongruent	2	7.9	23	9.9	0	0.0	0	0.0	1	20.0	26	9.4
Total	28	100.0	233	100.0	0	0.0	12	100.0	5	100.0	278	100.0
Low Group												
Congruent	5	100.0	134	91.8	0	0.0	11	100.0	5	83.3	155	92.3
Incongruent	0	0.0	12	8.2	0	0.0	0	0.0	1	16.7	13	7.7
Total	5	100.0	146	100.0	0	0.0	11	100.0	6	100.0	168	100.0

$X^2 = 47.67$ $P < .001$

TABLE 19

FREQUENCIES AND PERCENTAGES OF CONGRUENCE AND INCONGRUENCE OF FIVE SOLICITATION-RESPONSE UNIT TYPES IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF GRADE FOUR

	Recog.		Recall		Transl.		Conjec.		Explan.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Top Group												
Congruent	18	94.7	106	90.6	1	50.0	13	92.9	24	96.0	162	91.5
Incongruent	1	5.3	11	9.4	1	50.0	1	7.1	1	4.0	15	8.5
Total	19	100.0	117	100.0	2	100.0	14	100.0	25	100.0	177	100.0
Middle Group												
Congruent	22	91.6	91	88.3	0	0.0	21	87.5	11	78.6	145	87.9
Incongruent	2	8.4	12	11.7	0	0.0	3	12.5	3	21.4	20	12.1
Total	24	100.0	103	100.0	0	0.0	24	100.0	14	100.0	165	100.0
Low Group												
Congruent	17	89.5	100	85.5	0	0.0	9	100.0	8	72.7	134	85.9
Incongruent	2	10.5	17	14.5	0	0.0	0	0.0	3	27.3	22	14.1
Total	19	100.0	117	100.0	0	0.0	9	100.0	11	100.0	156	100.0

$X^2 = 35.92$ $P < .02$

TABLE 20

FREQUENCIES AND PERCENTAGES OF CONGRUENCE AND INCONGRUENCE OF FIVE SOLICITATION-RESPONSE UNIT TYPES IN THE COMBINED HIGHER AND LOWER GROUPS OF GRADE SIX

	Recog.		Recall		Transl.		Conjec.		Explan.		Total	
	f	%	f	%	f	%	f	%	f	%	f	%
Higher Group												
Congruent	9	100.0	21	91.3	2	100.0	7	100.0	16	100.0	55	96.5
Incongruent	0	0.0	2	8.7	0	0.0	0	0.0	0	0.0	2	3.5
Total	9	100.0	23	100.0	2	100.0	7	100.0	16	100.0	57	100.0
Lower Group												
Congruent	7	100.0	34	85.0	1	100.0	3	100.0	8	88.9	53	88.3
Incongruent	0	0.0	6	15.0	0	0.0	0	0.0	1	11.1	7	11.7
Total	7	100.0	40	100.0	1	100.0	3	100.0	9	100.0	60	100.0

$X^2 = 14.15$ $P < .02$

A marked difference in total congruence was noted between the higher and lower groups in Table 20. As in previous tables, the total congruence was largely a reflection of recall congruence.

Solicitation-Response Interaction Dimension

This dimension concerned the following patterns of solicitation-response interaction: (1) the Solicitation-Response Unit About Reading Content and (2) the Solicitation-Response Episode About Reading Content. The fomer referred to the basic unit of teacher-pupil verbal interaction about reading content while the latter referred to groupings of Solicitation-Response Units into related wholes.

PRECEDING PAGE BLANK- NOT FILMED

(o)	This indicates that a student response was called for but that the teacher did not allow sufficient time for a response.
N	This letter indicates a response that was inaudible to the typist.
I	A dividing mark is used to separate the responses of various students.

Table 21 illustrates the frequencies of congruent and incongruent Solicitation-Response Units and reveals that the SR+ pattern was the most prominent pattern (90.3 per cent).

Of the 1054 SR+ units seen in Table 21, 681 are found in the recall category. Generally, the distribution patterns tend to follow the general distribution patterns of solicitation types as illustrated in Table 6.

The S(o)/R+ pattern which accounted for 3.9 per cent of the congruent units illustrated in Table 21 revealed situations wherein the teacher would not allow a response unit after he had made a sustaining statement. The S(o)/(o)/R+ pattern was simply an elaboration of such sustaining activity.

Situations wherein the teacher would receive an incongruent response and then hold the unit open for a subsequent congruent response are illustrated by the SR-/R+ and S(o)/R-/R+ patterns.

A departure from the SR+ pattern was seen in the SR+/R+ pattern of Table 21. The latter pattern indicated that a teacher would allow for more than one congruent response.

The most frequent incongruent unit pattern in Table 21 was the SR- pattern. It was apparent that most of these SR- patterns occurred in

PRECEDING PAGE BLANK NOT FILMED

TABLE 21

FREQUENCIES OF CONGRUENT AND INCONGRUENT SOLICITATION-RESPONSE UNIT PATTERNS

Patterns	Recog.	Recall	Transl.	Conjec.	Explan.	Evalua.	Totals	
	f	f	f	f	f	f	f	%
Congruent								
SR+	74	681	4	56	50	189	1054	90.3
S(o)/R+	5	34	0	1	4	2	46	3.9
SR-/R+	6	15	0	4	1	1	27	2.3
SR+/R+	0	5	0	3	3	4	15	1.3
SR+1R+	1	1	0	2	0	6	10	.9
S(-)/R+	0	5	0	0	0	0	5	.4
S(o)/(o)/R+	1	2	0	0	1	0	4	.3
SR+1R-	0	4	0	0	0	0	4	.3
S(o)/R-/R+	1	2	0	0	0	0	3	.3
Totals	88	749	4	66	59	202	1168	100.0
Incongruent								
SR-	4	41	0	0	1	0	46	79.3
S(-)	0	6	1	0	1	1	9	15.5
S(o)/(-)	1	1	0	0	1	0	3	5.2
Totals	5	48	1	0	3	1	58	100.0

connection with recall solcitations. What was not apparent was the reason why the teachers allowed such units to terminate in incongruence.

Of the 58 incongruent response units reported in Table 21, 9 were S(-) patterns. This indicated situations wherein teachers permitted response but none was forthcoming. The S(o)/(-) pattern represented the same act with an added teacher sustaining move.

> Question Ten: What are the frequencies of congruent and incongruent Solicitation-Response Unit patterns in the second, fourth, and sixth grades?

Table 22 represents a breakdown of Table 21 into the frequencies and percentages of unit types for grades two, four, and six. As seen in Table 22 the congruence percentage of the second grade (95.6) was higher than the congruence percentages of the fourth (86.3) and sixth (79.6) grades.

The composite fourth grade in Table 22 revealed the highest percentage of unit patterns in the S(o)/R+ category. A close view of the data revealed that this percentage was heavily influenced by a single teacher who continually reformulated solicitations before allowing student response. The same teacher was also responsible for the S(o)/(o)/R+ patterns and other restatement situations.

The SR- pattern as seen in Table 22 was the dominant incongruent pattern for the second and fourth grades while the S(-) pattern was the dominant pattern in the sixth grade. Although these are dominant patterns in terms of the table, reference to Table 15 indicates that these patterns represent less than half of the incongruent patterns found in the study. As explained previously, many units were ruled out by the three criterion.

TABLE 22

FREQUENCIES OF CONGRUENT AND INCONGRUENT SOLICITATION-RESPONSE UNIT PATTERNS IN GRADES TWO, FOUR, AND SIX

Patterns	Grade	Recog.	Recall	Transl.	Conjec.	Explan.	Evalua.	Totals	
		f	f	f	f	f	f	f	%
Congruent									
SR+	Two	23	414	1	25	10	75	548	95.6
	Four	39	225	0	25	28	99	416	86.3
	Six	12	42	3	6	12	15	90	79.6
	Total	74	681	4	56	50	189	1054	90.3
S(o)/R+	Two	0	9	0	0	0	0	9	1.6
	Four	5	22	0	1	4	2	34	7.1
	Six	0	3	0	0	0	0	3	2.7
	Total	5	34	0	1	4	2	46	3.9
SR-/R+	Two	2	5	0	0	0	0	7	1.2
	Four	3	6	0	0	0	0	9	1.9
	Six	1	4	0	4	1	1	11	9.7
	Total	6	15	0	4	1	1	27	2.3
SR+/R+	Two	0	0	0	0	0	0	0	0.0
	Four	0	1	0	2	0	3	6	1.2
	Six	0	4	0	1	3	1	9	8.0
	Total	0	5	0	3	3	4	15	1.3
SR+1R+	Two	0	0	0	0	0	0	0	0.0
	Four	1	1	0	2	0	6	10	2.1
	Six	0	0	0	0	0	0	0	0.0
	Total	1	1	0	2	0	6	10	.9
S(-)/R+	Two	0	5	0	0	0	0	5	.8
	Four	0	0	0	0	0	0	0	0.0
	Six	0	0	0	0	0	0	0	0.0
	Total	0	5	0	0	0	0	5	.4
S(o)/(o)/R+	Two	0	0	0	0	0	0	0	0.0
	Four	1	2	0	0	1	0	4	.8
	Six	0	0	0	0	0	0	0	0.0
	Total	1	2	0	0	1	0	4	.3
SR+1R-	Two	0	4	0	0	0	0	4	.8
	Four	0	0	0	0	0	0	0	0.0
	Six	0	0	0	0	0	0	0	0.0
	Total	0	4	0	0	0	0	4	.3

TABLE 22 CONTINUED

Patterns	Grade	Recog.	Recall	Transl.	Conjec.	Explan.	Evalua.	Totals	
S(o)/R-/R+	Two	0	0	0	0	0	0	0	0.0
	Four	1	2	0	0	0	0	3	.6
	Six	0	0	0	0	0	0	0	0.0
	Total	1	2	0	0	0	0	3	.3
Totals	Two	25	437	1	25	10	75	573	100.0
	Four	50	259	0	30	33	110	482	100.0
	Six	13	53	3	11	16	17	113	100.0
	Total	88	749	4	66	59	202	1168	100.0
Incongruent									
SR-	Two	2	22	0	0	0	0	24	88.9
	Four	2	16	0	0	1	0	19	86.4
	Six	0	3	0	0	0	0	3	33.3
	Total	4	41	0	0	1	0	46	79.3
S(-)	Two	0	3	0	0	0	0	3	11.1
	Four	0	0	0	0	0	0	0	0.0
	Six	0	3	1	0	1	1	6	66.7
	Total	0	6	1	0	1	1	9	15.5
S(o)/(-)	Two	0	0	0	0	0	0	0	0.0
	Four	1	1	0	0	1	0	3	13.6
	Six	0	0	0	0	0	0	0	0.0
	Total	1	1	0	0	1	0	3	5.2
Totals	Two	2	25	0	0	0	0	27	100.0
	Four	3	17	0	0	2	0	22	100.0
	Six	0	6	1	0	1	1	9	100.0
	Total	5	48	1	0	3	1	58	100.0

Question Eleven: What are the frequencies of congruent and incongruent Solicitation-Response Unit patterns in the combined top, middle, and low groups of the sample?

As previously mentioned, the sixth grade sample was found to be lacking three-reading-group structures. Thus, the response to question eleven represents the combined top, middle, and low groups of the combined second and fourth grades. Table 23 presents the frequencies and percentages of unit types in these groups.

Table 23 reveals that the SR+ pattern was slightly more frequent in terms of percentage in the top reading group (92.9) than in the middle (90.8) and low (90.1) reading groups.

The S(o)/R+ pattern represented a lesser percentage of top reading group patterns than middle or low group patterns. Possibly, this suggests that these teachers were more precise in stating questions for lower groups.

SR-/R+ patterns were more evident in the low group of the combined second and fourth grades than in the top and middle groups. The numbers appear too small to suggest any real implications.

Of the three incongruent patterns listed in Table 23 the SR- pattern appeared most frequently. The top and low group incongruent patterns were all of the SR- type while the middle group had three units in each of the S(-) and S(o)/(-) patterns.

Question Twelve: What are the frequencies of congruent and incongruent Solicitation-Response Unit patterns in the top, middle, and low groups of each grade?

Tables 24, 25, and 26 present the group frequencies of Solicitation-Response patterns in the second, fourth, and sixth grades, respectively.

TABLE 23

FREQUENCIES OF CONGRUENT AND INCONGRUENT SOLICITATION-RESPONSE UNIT PATTERNS IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF GRADES TWO AND FOUR

Patterns		Recog.	Recall	Trans.	Conjec.	Explan.	Evalua.	Totals	
	Group	f	f	f	f	f	f	f	%
Congruent									
SR+	T	14	236	1	18	19	64	352	92.9
	M	34	228	0	18	12	73	365	90.8
	L	14	175	0	14	7	37	247	90.1
	Total	62	639	1	50	38	174	964	91.4
S(o)/R+	T	1	4	0	0	1	2	8	2.1
	M	1	20	0	1	1	0	23	5.7
	L	3	7	0	0	2	0	12	4.4
	Total	5	11	0	1	4	2	43	4.0
SR-/R+	T	0	2	0	0	0	0	2	.5
	M	1	3	0	0	0	0	4	1.0
	L	4	6	0	0	0	0	10	3.7
	Total	5	11	0	0	0	0	16	1.5
SR+1R+	T	1	0	0	0	0	3	4	1.1
	M	0	0	0	1	0	2	3	.7
	L	0	1	0	1	0	1	3	1.1
	Total	1	1	0	2	0	6	10	.9
SR+/R+	T	0	1	0	1	0	1	3	.8
	M	0	0	0	1	0	0	1	.2
	L	0	0	0	0	0	2	2	.7
	Total	0	1	0	2	0	3	6	.6
S(-)/R+	T	0	2	0	0	0	0	2	.5
	M	0	3	0	0	0	0	3	.7
	L	0	0	0	0	0	0	0	0.0
	Total	0	5	0	0	0	0	5	.5
S(o)/(o)/R+	T	0	1	0	0	1	0	2	.5
	M	1	1	0	0	0	0	2	.5
	L	0	0	0	0	0	0	0	0.0
	Total	1	2	0	0	1	0	4	.4

TABLE 23 CONTINUED

Patterns	Group	Recog. f	Recall f	Trans. f	Conjec. f	Explan. f	Evalua. f	Totals f	Totals %
SR+1R-	T	0	4	0	0	0	0	4	1.1
	M	0	0	0	0	0	0	0	0.0
	L	0	0	0	0	0	0	0	0.0
	Total	0	4	0	0	0	0	4	.4
S(o)/R-/R+	T	0	2	0	0	0	0	2	.5
	M	1	0	0	0	0	0	1	.2
	L	0	0	0	0	0	0	0	0.0
	Total	1	2	0	0	0	0	3	.3
Totals	T	16	252	1	19	21	70	379	100.0
	M	38	255	0	21	13	75	402	100.0
	L	21	189	0	15	9	40	274	100.0
	Total	75	696	1	55	43	185	1055	100.0
Incongruent									
SR-	T	0	13	0	0	0	0	13	100.0
	M	3	14	0	0	1	0	18	75.0
	L	1	11	0	0	0	0	12	100.0
	Total	4	38	0	0	1	0	43	87.8
S(-) (2004 only)	T	0	0	0	0	0	0	0	0.0
	M	1	3	0	0	1	0	3	12.5
	L	0	0	0	0	0	0	0	0.0
	Total	1	3	0	0	1	0	3	6.1
S(o)/(-) (4001 only)	T	0	0	0	0	0	0	0	0.0
	M	1	1	0	0	1	0	3	12.5
	L	0	0	0	0	0	0	0	0.0
	Total	1	1	0	0	1	0	3	6.1
Totals	T	0	13	0	0	0	0	13	100.0
	M	4	18	0	0	2	0	24	100.0
	L	1	11	0	0	0	0	12	100.0
	Total	5	42	0	0	2	0	49	100.0

Table 24 reveals the predominance of the SR+ pattern in each of the three composite reading groups of the second-grade sample. It further illustrates that this pattern was more pronounced in the low (97.2 per cent) and high (96.0 per cent) groups than in the middle group (94.4 per cent). Patterns of congruence other than the SR+ unit were very slight.

The basic pattern of incongruence in the second grade as seen in Table 24 was the SR- pattern.

As Table 25 illustrates, the SR+ pattern was the dominant pattern in the fourth-grade classes as well as in the second-grade classes.

The presence of sustaining statements after initiating solicitations in several unit types in Table 25 indicates that some difficulty was encountered in framing the initiating solicitation.

SR- was the dominant incongruent pattern in the fourth grade as revealed by Table 25, but a high percentage of the S(o)/(-) pattern was observed in the middle group. This pattern represented a single teacher who had problems in formulating the initial solicitation.

While the SR+ pattern was also the dominant pattern in the sixth grade, Table 26 indicates a lesser dominance in this pattern. Only 76.2 per cent of the top group units were SR+ which compared with percentages of 96 and 89.4 in the top groups of the second and fourth grades, respectively.

Of the 37 higher-group congruent patterns listed in Table 26, 6 were SR-/R+ units. This pattern indicated that the teacher sustained a unit after the first incongruent response and achieved congruency on the second student attempt.

TABLE 24

FREQUENCIES OF CONGRUENT AND INCONGRUENT SOLICITATION-RESPONSE UNIT PATTERNS IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF GRADE TWO

Patterns		Recog.	Recall	Trans.	Conjec.	Explan.	Evalua.	Totals	
	Group	f	f	f	f	f	f	f	%
Congruent									
SR+	T	2	154	1	12	4	20	193	96.0
	M	17	163	0	5	3	30	218	94.4
	L	4	97	0	8	3	25	137	97.2
	Total	23	414	1	25	10	75	548	95.6
S(o)/R+	T	0	1	0	0	0	0	1	.5
	M	0	6	0	0	0	0	6	2.6
	L	0	2	0	0	0	0	2	1.4
	Total	0	9	0	0	0	0	9	1.6
SR-/R+	T	0	1	0	0	0	0	1	.5
	M	1	3	0	0	0	0	4	1.7
	L	1	1	0	0	0	0	2	1.4
	Total	2	5	0	0	0	0	7	1.2
S(-)/R+	T	0	2	0	0	0	0	2	1.0
	M	0	3	0	0	0	0	3	1.3
	L	0	0	0	0	0	0	0	0.0
	Total	0	5	0	0	0	0	5	.8
SR+1R-	T	0	4	0	0	0	0	4	2.0
	M	0	0	0	0	0	0	0	0.0
	L	0	0	0	0	0	0	0	0.0
	Total	0	4	0	0	0	0	4	.8
Totals	T	2	162	1	12	4	20	201	100.0
	M	18	175	0	5	3	30	231	100.0
	L	5	100	0	8	3	24	141	100.0
	Total	25	437	1	25	10	74	437	100.0
Incongruent									
SR-	T	0	6	0	0	0	0	6	100.0
	M	2	11	0	0	0	0	13	81.3
	L	0	5	0	0	0	0	5	100.0
	Total	2	22	0	0	0	0	24	88.9
S(-)	T	0	0	0	0	0	0	0	0.0
	M	0	3	0	0	0	0	3	13.7
	L	0	3	0	0	0	0	0	0.0
	Total	0	3	0	0	0	0	3	11.1
Totals	T	0	6	0	0	0	0	6	100.0
	M	2	14	0	0	0	0	16	100.0
	L	0	5	0	0	0	0	5	100.0
	Total	2	25	0	0	0	0	27	100.0

TABLE 25

FREQUENCIES OF CONGRUENT AND INCONGRUENT SOLICITATION-RESPONSE UNIT PATTERNS IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF GRADE FOUR

Patterns		Recog.	Recall	Trans.	Conjec.	Explan.	Evalua.	Totals	
	Group	f	f	f	f	f	f	f	%
Congruent									
SR+	Top	12	82	0	6	15	44	159	89.4
	Middle	17	65	0	13	9	43	147	86.0
	Low	10	78	0	6	4	12	110	82.7
	Total	39	225	0	25	28	99	416	86.3
S(o)/R+	Top	1	3	0	0	1	2	7	3.9
	Middle	1	14	0	1	1	0	17	9.9
	Low	3	5	0	0	2	0	10	7.5
	Total	5	22	0	1	4	2	34	7.1
SR+lR+	Top	1	0	0	0	0	3	4	2.2
	Middle	0	0	0	1	0	2	3	1.7
	Low	0	1	0	1	0	1	3	2.3
	Total	1	1	0	2	0	6	10	2.1
SR-/R+	Top	0	1	0	0	0	0	1	.6
	Middle	0	0	0	0	0	0	0	0.0
	Low	3	5	0	0	0	0	8	6.0
	Total	3	6	0	0	0	0	9	1.9
SR+/R+	Top	0	1	0	1	0	1	3	1.7
	Middle	0	0	0	1	0	0	1	.6
	Low	0	0	0	0	0	2	2	1.5
	Total	0	1	0	2	0	3	6	1.2
S(o)/(o) /R+	Top	0	1	0	0	1	0	2	1.1
	Middle	1	1	0	0	0	0	2	1.2
	Low	0	0	0	0	0	0	0	0.0
	Total	1	2	0	0	1	0	4	.8
S(o)/R- /R+	Top	0	2	0	0	0	0	2	1.1
	Middle	1	0	0	0	0	0	1	.6
	Low	0	0	0	0	0	0	0	0.0
	Total	1	2	0	0	0	0	3	.6
Totals	Top	14	90	0	7	17	51	179	100.0
	Middle	20	80	0	16	10	45	171	100.0
	Low	16	89	0	7	7	14	132	100.0
	Total	50	259	0	30	33	110	482	100.0

TABLE 25 CONTINUED

Patterns		Recog.	Recall	Trans.	Conjec.	Explan.	Evalua.	Totals	
	Group	f	f	f	f	f	f	f	%
Incongruent									
SR-	Top	0	7	0	0	0	0	7	100.0
	Middle	1	3	0	0	1	0	5	62.5
	Low	1	6	0	0	0	0	7	100.0
	Total	2	16	0	0	1	0	19	86.4
S(o)/(-)	Top	0	0	0	0	0	0	0	0.0
	Middle	1	1	0	0	1	0	3	37.5
	Low	0	0	0	0	0	0	0	0.0
	Total	1	1	0	0	1	0	3	13.6
Totals	Top	0	7	0	0	0	0	7	100.0
	Middle	2	4	0	0	2	0	8	100.0
	Low	1	6	0	0	0	0	7	100.0
	Total	3	17	0	0	2	0	23	100.0

TABLE 26

FREQUENCIES OF CONGRUENT AND INCONGRUENT SOLICITATION-RESPONSE UNIT PATTERNS IN THE COMBINED HIGHER AND LOWER READING GROUPS OF GRADE SIX

Patterns		Recog.	Recall	Transl.	Conjec.	Explan.	Evalua.	Totals	
	Group	f	f	f	f	f	f	f	%
Congruent									
SR+	Higher	8	12	1	4	5	2	32	76.2
	Lower	4	19	1	1	2	7	34	81.0
	Total	12	31	2	5	7	9	66	78.6
SR/R+	Higher	0	1	0	1	1	0	3	7.1
	Lower	0	3	0	0	2	1	6	14.3
	Total	0	4	0	1	3	1	9	10.7
SR-/R+	Higher	1	4	0	0	0	1	6	14.3
	Lower	0	0	0	0	0	0	0	0.0
	Total	1	4	0	0	0	1	6	7.1
S(o)/R+	Higher	0	1	0	0	0	0	1	2.4
	Lower	0	2	0	0	0	0	2	4.7
	Total	0	3	0	0	0	0	3	3.6
Totals	Higher	9	18	1	5	6	3	42	100.0
	Lower	4	24	1	1	4	8	42	100.0
	Total	13	42	2	6	10	11	84	100.0
Incongruent									
SR-	Higher	0	1	0	0	0	0	1	100.0
	Lower	0	2	0	0	0	0	2	50.0
	Total	0	3	0	0	0	0	3	50.0
S(-)	Higher	0	0	0	0	0	0	0	0.0
	Lower	0	1	1	0	0	0	2	50.0
	Total	0	1	1	0	0	0	2	50.0
Totals	Higher	0	1	0	0	0	0	1	100.0
	Lower	0	3	1	0	0	0	4	100.0
	Total	0	4	1	0	0	0	5	100.0

The second portion of the Solicitation-Response interaction pertains to the Solicitation-Response Episode. A Solicitation-Response Episode was defined as two or more solicitation-response units that were combined by a teacher into a larger, related whole as follows:

Setting Purpose Follow-up - This type of episode would result when a teacher would follow up a "setting purpose" solicitation (S(o)) with a parallel solicitation calling for a response. In other words this episode indicated that the teacher would follow up the "setting purpose" solicitation to determine if the purpose was achieved. The "setting purpose" solicitation was normally a recognition solicitation wherein the student was asked to locate an answer.

Verification - Verification episodes involve solicitations wherein congruence can be verified by referring to the text. It is the reverse of the "setting purpose follow up" episode in that a recall or translation response is followed by a teacher solicitation that calls upon the student or group to verify the accuracy or inaccuracy of the previous statement.

Justification - This episode appears when a teacher calls upon a student to justify his own or somebody else's previous response by the use of explanation. This explanation might follow any type of previous response but most frequently follows judgment and conjecture responses.

Judgmental - This episode refers to those situations wherein the teacher will solicit a judgmental or evaluative reaction (not an explanation) to a previous student response. In many instances this episode type represents a reverse of the justification episode in that a student or group is asked to make a judgment about a previous conjecture or explanation.

The following questions were concerned with the frequencies of the above episode types in the grades and reading groups observed:

Question Thirteen: What are the frequencies of Solicitation-Response Episode patterns?

Question Fourteen: What are the frequencies of Solicitation-Response Episode patterns in the second, fourth, and sixth grades?

Question Fifteen: What are the frequencies of Solicitation-Response Episode patterns in the combined top, middle, and low groups of the sample?

Question Sixteen: What are the frequencies of Solicitation-Response Episode patterns in the top, middle, and low groups of each grade?

Questions thirteen, fourteen, and fifteen are answered by the data presented in Table 27.

TABLE 27

FREQUENCIES OF SOLICITATION-RESPONSE EPISODES IN THE COMBINED COMPONENT TOP, MIDDLE, AND LOW GROUPS OF GRADES TWO, FOUR, AND SIX

Grade	Group	SP Follow up	Verification	Justification	Judgmental	Total
Two	Top	7	1	6	0	14
	Middle	17	6	2	2	27
	Low	2	4	3	1	10
	Total	26	11	11	3	51
Four	Top	16	8	18	2	44
	Middle	12	0	3	0	15
	Low	7	6	2	0	15
	Total	35	14	23	2	74
Six	Top	0	3	2	1	6
	Middle	6	5	0	0	11
	Total	6	8	2	1	17
Grand Totals		67	33	36	6	142

As Table 27 indicates, there were 142 episode patterns identified in the three grades and component reading groups illustrated. Generally, each episode represents a combination of two Solicitation-Response Units which means that this table represents approximately 284 units. When this figure is compared with the grand total of 1857 units it is apparent that teachers did not relate a great number of their Solicitation-Response Units in terms of the current episode definitions.

The episode type found most frequently according to Table 27 is the "setting purpose follow up." This type was found 67 times, a total which nearly equals the composite total of the three other types.

"Setting purpose follow up" and "verification" episodes appeared to be found in comparable numbers in the second and fourth grades according to Table 27. These two types were very infrequent in the sixth grades.

"Justification" episode types were most frequent in the fourth grade as were the previously-discussed two-episode types. The second grade had approximately half the number of "justification" episodes that the fourth grade had, while the sixth grade had only three.

"Judgmental" episodes were in evidence only 6 times as indicated by Table 27. Of these, 3 were found in the second grade and 2 in the fourth grade.

Question Sixteen was concerned with the frequency different of episode types in the combined three groups (two groups in the case of the sixth grade) of each grade level. In terms of totals the three grades presented rather different patterns. In the second grade episodes were most frequent in the middle group and least frequent in the low group. The fourth-grade top reading group contained the greatest abundance of episode and was more than double the total of the remaining groups combined. In the sixth-grade two-reading-group structure the balance between groups was rather even.

"Setting purpose follow up" episodes were most frequent in the middle group of the second grade, the top group of the fourth grade, and the middle group of the sixth grade, as indicated in Table 27. No apparent pattern is evident.

As seen in Table 27, "verification" episodes illustrate no pattern. This absence of pattern was almost equally evident in the middle and low groups of the second grade and nearly equal in the top and low groups of the fourth grade.

"Justification" episodes appeared to be consistently more frequent in top groups, as seen by the evidence in Table 27. In all three grades the frequencies were much greater for the top groups.

As previously stated, the "judgmental" episode was found in very few instances. As Table 27 indicates, there appears to be no dominant pattern of occurrence in terms of reading groups.

Table 28 concerns the incidence of episode types in the combined top, middle, and low groups of the second and fourth grades and refers to Question 15 at the beginning of this section.

TABLE 28

FREQUENCIES OF SOLICITATION-RESPONSE EPISODES IN THE COMBINED TOP, MIDDLE, AND LOW GROUPS OF THE SECOND AND FOURTH GRADE SAMPLE

Group	SP Follow up	Verification	Justification	Judgmental	Total
Top	23	9	24	2	58
Middle	29	6	5	2	42
Low	9	10	5	1	25
Totals	25	61	34	5	125

As Table 28 reveals, each of the three reading groups had frequency dominance in an area. The top reading group possessed greatest dominance in the "judgmental" episode type. The middle reading group had a slightly greater number of "setting-purpose-follow-up" episodes than the top group. The low reading group, which was lowest in total number of episodes, had a slight dominance in the verification category.

Relations Between Teacher Knowledge and Practice

The following four questions were concerned with the relations between teacher knowledge as measured by the Reading Comprehension Theory Test and teacher practices as described by the Reading Comprehension Solicitation-Response Inventory, Congruence-Incongruence Dimension, the Solicitation-Response Unit, and the Solicitation-Response Episode.

> Question One: What relations, if any, appear between those teachers scoring high and low on the Reading Comprehension Theory Test and their solicitation practices as measured by the Reading Comprehension Solicitation-Response Inventory?
>
> Question Two: What relations, if any, appear between those teachers scoring high and low on the Reading Comprehension Theory Test and their congruence-incongruence frequencies and percentages as measured on the Congruence-Incongruence Dimension?
>
> Question Three: What relations, if any, appear between those teachers scoring high and low on the Reading Comprehension Theory Test and their solicitation-response interaction as measured by the Solicitation-Response Episode About Reading Content?
>
> Question Four: What relations, if any, appear between those teachers scoring high and low on the Reading Comprehension Theory Test and their solicitation-response interaction as measured by the Solicitation-Response Episode About Reading Content?

Because of the lack of prominent differences among the scores of the twelve sample teachers it became impossible to assess any theory-practice relationships of high- and low-scoring teachers. Thus, the above questions could not be approached on the basis of the data of the current study.

In the absence of data relative to the research questions, it was decided to view some of the relations between the high- and low-scoring individuals and the two halves of the teacher group.

Although the research questions could not be approached, it seemed feasible to make a visual inspection of the practices of the two sixth-grade teachers who represented both the high and low end of the scoring distribution.

Table 29 presents a summary of the teacher practices of the highest-scoring teacher and the lowest-scoring teacher.

Table 29 indicates that the total frequencies of solicitation activity were similar for the high- and low-scoring teachers. The distribution of solicitation activity appears quite different, however. Whereas the high scoring teacher used 56 per cent of her solicitations for literal comprehension outcomes (recognition and recall), the low-scoring teacher used 79 per cent of her solicitations in this region. As a result of the lesser incidence of literal solicitation, the high-scoring teacher spent considerably more time in soliciting inferential and evaluative outcomes.

As seen in Table 29, both teachers had 48 instances of congruence. Incongruence for the low-scoring teacher was triple that of the high-scoring teacher.

In terms of unit patterns, Table 29 reveals that the high-scoring teacher employed SR-/R+ and SR+/R+ patterns in a total of fifteen situations. The only variant pattern of the SR+ seen for the low-group teacher was the S(o)/R+ pattern which was seen in three instances. Such data suggests the high-scoring teacher varies the nature of solicitation-

TABLE 29

READING COMPREHENSION SOLICITATION-RESPONSE PRACTICES OF THE HIGH- AND LOW-SCORING INDIVIDUALS

Reading Comprehension Outcomes

Teacher	Recogn.		Recall		Transl.		Conjec.		Explan.		Evalua.		Totals	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
High	7	11	32	49	0	0	8	12	9	14	9	14	65	100
Low	14	18	48	61	4	5	5	6	4	5	4	5	69	100

Congruence-Incongruence

Teacher	Pat.	Recogn.	Recall	Transl.	Conjec.	Explan.	Totals
High	Cong.	5	28	0	6	9	48
	Incon.	0	3	0	0	0	3
Low	Cong.	10	29	2	3	4	48
	Incon.	0	8	1	0	0	9

Solicitation-Response Unit Patterns

Teacher	Pat.	Recogn.	Recall	Transl.	Conjec.	Explan.	Evalua.	Totals
High	SR+	4	16	0	2	1	5	28
	SR-/R+	1	4	0	0	0	1	6
	SR+/R+	0	4	0	1	3	1	9
	SR-	0	3	0	0	0	0	3
Low	SR+	7	16	2	1	2	1	29
	S(o)/R+	0	3	0	0	0	0	3
	S(-)	0	3	0	0	0	0	3

Solicitation-Response Episode Patterns

Teacher	SP-Followup	Verification	Justification	Judgmental	Total
High	0	5	2	1	8
Low	3	3	0	0	6

response interaction more than the low-scoring teacher.

The practices between the high- and low-scoring teachers would tend to suggest different practices. However, it would be extremely tentative for several reasons to make comparisons. First of all, the high-scoring teacher is not a high-scoring teacher in terms of the criterion population of Criterion Group II. Next, it should be remembered that one cannot be certain that the low-scoring teacher gave her full efforts to the task of responding to the theory test.

Although none of the sample teachers attained high scores on the Reading Comprehension Theory Test it is interesting to note that half had average scores and half had low scores. Since this delineation was available it was decided to observe the practices of these two groups in relation to one another. Tables 30 through 33 indicate such relations in terms of reading comprehension outcomes, congruence-incongruence, Solicitation-Response Unit patterns, and Solicitation-Response Episode patterns.

TABLE 30

READING COMPREHENSION OUTCOMES FREQUENCIES AND PERCENTAGES OF THE AVERAGE AND LOW SCORING TEACHER GROUPS

Group	Recog.		Recall		Transl.		Conjec.		Explan.		Evalua.		Totals	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Average	154	13.4	718	62.3	5	.4	64	5.6	61	5.3	150	13.0	1152	100
Low	98	13.9	338	48.0	7	1.0	56	7.9	72	10.2	134	19.0	705	100

$x^2 = 47.28$ $P < .001$

A Chi-square test of the observed and expected solicitation frequencies of the average- and low-scoring groups revealed a Chi-square of 47.28. A Chi-square of this magnitude indicates that such a patterning could occur in less than one of a thousand situations. Thus, the differences in Table 30 can be considered real rather than chance differences.

Probably the most striking observation in Table 30 is the higher percentage of recall solicitation activity in the average scoring group. This pattern and the subsequent converse pattern of greater inferential activity in the lower scoring group appears to be the result of the influence of the second- and sixth-grade teachers. The second-grade teachers who solicited most heavily in the recall area placed three of their four in the average group. The sixth-grade teachers who solicited a proportionately higher percentage of inferential solicitations than the other grades placed three of their four in the low group. On the basis of this it would appear that grade levels have a stronger bearing upon solicitation patterns than do scoring differences.

Table 31 illustrates further evidence of the second- and sixth-grade teachers effect upon total congruence-incongruence percentages. As seen in the table, the average group had a four per cent higher congruence percentage than did the low-scoring teacher group.

TABLE 31

CONGRUENCE-INCONGRUENCE FREQUENCIES AND PERCENTAGES OF THE AVERAGE AND LOW SCORING TEACHER GROUPS

Group	Congruence		Incongruence		Totals	
	f	%	f	%	f	%
Average	803	91.8	72	8.2	875	100
Low	402	87.8	56	12.2	458	100

In Table 32 a breakdown of the various Solicitation-Response Unit patterns is seen. Because the SR+ unit pattern was the only dominant pattern evident, little can be generalized relative to differences between the two groups in terms of the other patterns. Also, it should be added that the small frequencies in the patterns other than SR+ were normally the result of a teacher or two and not necessarily characteristic of a group.

TABLE 32

SOLICITATION-RESPONSE UNIT PATTERNS AND THEIR FREQUENCIES IN THE AVERAGE AND LOW SCORING TEACHER GROUPS

Group	Patterns											Totals
	SR+	S(o)/R+	SR-/R+	SR+/R+	SR+IR+	S(-)/R+	S(o)/)o)/R+	SR+IR-	S(o)/R-/R+	SR-	S(-)	S(o)/(-)	
Average	704	26	16	9	0	0	4	4	3	31	0	3	800
Low	350	20	11	6	10	5	0	0	0	15	9	0	428

Table 33 indicates the breakdown of episode types in the average and low scoring groups. As seen in the table, the low-scoring teachers utilized episodes in slightly higher numbers than did the average-group teachers.

Little significance can be attributed to the episode frequencies because of the small sample. Two of the average-group teachers accounted for 53 of the 70 episodes while two of the low-group teachers accounted for 57 of the 81 episodes in that group.

TABLE 33

SOLICITATION-RESPONSE EPISODE PATTERNS AND THEIR FREQUENCIES IN THE AVERAGE- AND LOW-SCORING TEACHER GROUPS

Group	SR-Follow up	Verification	Justification	Judgmental	Total
Average	23	20	23	4	70
Low	44	18	16	3	81

Summary

In the following summary the chapter data relative to the three major dimensions of the study are presented in this order: teacher knowledge of comprehension theory, teacher practices in comprehension development, and relations between teacher practices and knowledge.

Teacher Knowledge of Comprehension Theory

It was found that half of the twelve sample teachers rated average in knowledge of comprehension theory while the other half rated low in such knowledge. Most of the teacher scores were very close with only two scores varying considerably from the group. Prominent differences were not found to exist in accordance with the criterion that stated that prominent differences would be those between scores one standard deviation below the mean of this group.

%L.

Teacher Practices in Comprehension Development

Teacher practices were described in terms of (1) the nature of reading comprehension outcomes sought by teacher solicitations, (2) congruence-incongruence, and (3) solicitation-response interaction patterns.

Of the six possible solicitation types outlined in the Reading Comprehension Solicitation-Response Inventory, recall solicitations accounted for 1056 of the total of 1857 solicitations, or 56.9 per cent. The other solicitation types and their frequencies and percentages of occurrence were: evaluation 284, 15.3 per cent; recognition 252, 13.5 per cent; explanation 133, 7.2 per cent; conjecture 120, 6.5 per cent; and translation 12, .6 per cent.

Total solicitation activity was greatest in the second grade with 878 solicitations evident. The fourth grade had 725 and the sixth grade had 254.

In terms of the percentage breakdown of solicitation activity, it was found that the second grade led the other two grades in the percentages in the areas of recognition and evaluation. The sixth grade had higher percentages of solicitation activity in the areas of translation, conjecture, and explanation.

A composite of the top, middle, and low reading groups of the second and fourth grades revealed the following total solicitation frequencies: top group, 560 solicitations; middle group, 619 solicitations; and low group, 424 solicitations.

When the percentages of the six solicitation types were viewed in accordance with reading-group level, it was noted that literal comprehension solicitation activity was in higher percentage in the lower reading groups.

As the group classification or level went up the percentage of inferential solicitation (conjecture and explanation) also went up. Percentages of evaluative solicitations showed no patterns with regard to the nature of the reading-group levels.

In the second-grade sample, total solicitation frequency was greatest in the middle group (369) and least in the low group (224). The top group had 285 solicitations. The dominant solicitation mode found in the grade was that of literal comprehension (recognition and recall) which accounted for 78.8 per cent of the activity. Inferential solicitations (conjecture and explanation) accounted for 9.5 per cent of the activity, while evaluation accounted for 11.5 per cent of the activity.

When the percentages of the component reading groups of the second grade were viewed it was discovered that the middle group saw the greatest percentage of literal comprehension solicitation activity and the top group experienced the greatest percentage of inferential activity. Evaluation activity was most prominent in the low group.

The fourth-grade solicitation frequency total of 725 was divided as follows: top group, 275; middle group, 250; and low group, 200. As in the second grade the greatest portion of these solicitations resided in the literal comprehension area (recognition and recall). However, unlike the second grade, where 78.8 per cent of the total was made up of literal comprehension solicitations, the fourth grade had 64.7 per cent in this area. The lesser literal comprehension percentage was reflected in the inferential solicitation percentages of 14.3 per cent and the evaluation percentage of 20.4 per cent.

The percentages of solicitation activity found in each of the three reading groups of the fourth grade were fairly well balanced in the recognition and translation areas. The greatest difference was seen in the literal comprehension dominance of the low group which was offset by higher percentages in the inferential and evaluation areas of the top and middle groups.

In the sixth-grade sample the total solicitation frequency was slightly higher (87 as opposed to 68) in the lower of the two groups. While the dominant solicitation mode was literal comprehension, as in the second and fourth grades, the sixth grade further substantiated the idea that this activity declined in higher grades. Whereas the second and fourth grades had 78.8 per cent and 64.7 per cent respectively in this area, the sixth grade had 61.3 per cent. The remaining 38.7 per cent of the sixth grade solicitation activity appeared most heavily invested in the inferential area as seen by the 25.8 per cent figure there.

Of 1333 completed Solicitation-Response Units, 1205, or 90.4 per cent were congruent. This indicated that in nearly one of every ten completed units the unit was terminated after an incongruent response. In some of the instances the incongruent responses were accepted as congruent by the teachers while in others the teacher supplied the congruent response after receiving incongruent responses.

In terms of the solicitation types which initiated the completed 1333 Solicitation-Response Units it was discovered that congruence was highest in the conjectural area with a percentage of 94.2. The other four areas and their congruence percentages in order of highest to lowest were:

recognition, 93.9 per cent; recall, 90.3 per cent; explanation, 85.5 per cent; and translation, 75 per cent. Evaluation represented a value judgment and as such was not considered as a subject for congruence.

Overall congruence was greatest in the second grade sample as indicated by 92.3 per cent congruence. The congruence percentages of the fourth and sixth grades were 88.6 and 88.2 respectively. These overall percentages appeared to reflect the congruency percentages of the dominant recall solicitation category. Although the sixth grade had the lowest total congruency percentage, it had the highest congruency percentages in every significant category other than recall.

Highest congruency,as viewed from the standpoint of the top, middle, and low groups of the second and fourth grades, was revealed in the combined top group (93.2 per cent). The middle- and low-group percentages were almost equal as evidenced by the 89.6 per cent figure in the middle group and the 89.4 per cent figure in the low group. As was also the case with grade-level congruence, the heavily-loaded recall category congruency percentage appeared to reflect the total congruency percentage. Beyond this literal reflection it was noted that the low group actually had the highest percentage of congruence in the conjectural area whereas the high group had the highest congruency percentage of the three groups in the explanation area.

In the second grade the congruency percentage was highest in the top group, with 94.5 per cent, and lowest in the middle group, with 90.6 per cent. Again, the total congruence percentages reflected the recall congruency situation. Strangely enough, the top group's superior congruency percentage was achieved despite congruency percentages in both inferential areas that were lower than any of those of the middle and low groups.

The top reading group of the fourth grade had a congruency percentage of 91.5 per cent which was higher than the middle group's 87.9 per cent and the low group's 85.9 per cent. Like the second grade the total congruency percentage was a reflection of congruency in the recall area. Conjectural congruency wa highest in the top group.

Completing the pattern of higher congruence for top reading groups was the sixth grade where the higher of two groups achieved 96.5 per cent congruence while the lower group was achieving 88.3 per cent congruence. Because recall solicitation activity played a lesser part in sixth-grade solicitation activity, it had a lesser influence on the total congruency percentages. Although a higher percentage in the recall area did significantly influence the total, a high percentage of explanatory congruence added substantially to the total picture.

Of 1168 congruent Solicitation-Response Units which occurred in three or more instances, 1054, or 90.3 per cent, were SR+ patterns. The other patterns and their frequencies in order of highest to lowest were: S(o)/R+, 3.9 per cent; SR-/R+, 2.3 per cent; SR+/R+, 1.3 per cent; SR+IR+, .9 per cent; S(-)/R+, .4 per cent; S(o)/(o)/R+, .3 per cent; SR+IR-, .3 per cent; and S(o)/R-/R+, .3 per cent.

When the unit patterns composite was broken down to the three grade levels it was found that the SR+ was the most dominant congruent pattern in the second grade (95.6 per cent), fourth grade (86.3 per cent), and sixth grade (79.6 per cent). The differences between the grades were found primarily in the S(o)/R+, SR-/R+, and SR+/R+ patterns. The S(o)/R+ patterns were found most frequently in the sixth grade.

SR+ patterns appeared most frequently in the top reading groups of the second and fourth grades but not the sixth grade. In the sixth grade the SR+ congruence pattern of the top group was sharply reduced by a 13.5 per cent incidence of SR-/R+ pattern.

Of the total of 58 incongruent Solicitation-Response Units which occurred in three or more instances in the combined grades, 48, Or 80 per cent, were SR- patterns. Of the remaining 12, 15 per cent were S(-) patterns and 5 per cent were S(o)/(-) patterns.

Although the SR- pattern was found to be the most frequent incongruent pattern in the second (88.9 per cent) and fourth grades (86.4 per cent), the S(-) pattern turned out to be the most frequent pattern in the sixth grade (66.7 per cent).

SR- units comprised 100% of the incongruent unit types in the top groups of all three grades and the low groups of the second and fourth grades. The other patterns were seen in the second- and fourth-grade middle groups and the sixth-grade lower group.

Of the four types of Solicitation-Response Episodes identified, the setting purpose follow-up type was found to be most frequent (71). Of the remaining 75 episodes the breakdown from highest to lowest was: justification, 37; verification, 31; and judgmental, 7.

There were 73 episodes in the fourth grade, 57 in the second grade, and 16 in the sixth grade. Episodes were in greatest frequency in the middle reading group of the second grade, the top group in the fourth grade, and in almost equal abundance in the two groups of the sixth grade.

Relations Between Teacher Practices and Knowledge

Since prominent differences did not exist between the scores of any of the twelve teachers it was impossible to correlate differences in practices between high- and low-scoring teachers. Visual inspection of the practices of the high- and low-scoring individuals and the average- and low-scoring groups of teachers suggested certain differences, but such differences could not be generalized. With regard to the differences between the average-and low-scoring groups, such differences appeared to reflect the grade levels of the teachers rather than their theoretical knowledge per se. That is, the average group was dominated by second-grade teachers while the low group was dominated by sixth-grade teachers. Presumably, it is possible that second-grade teachers, as a group, may perform in a manner superior to sixth-grade teachers on the Reading Comprehension Theory Test. However, such an assumption cannot be supported by the very small sample and the small differences between the groups in the current sample.

CHAPTER FIVE

CONCLUSIONS

In the following paragraphs the conclusions of the study are treated in terms of the general format of the study which includes: teacher knowledge of comprehension theory, teacher practices in comprehension development, and relations between teacher practices and knowledge.

Teacher Knowledge of Comprehension Theory

About the only conclusion that can be drawn relative to the sample teachers' knowledge of reading comprehension theory as measured by the Reading Comprehension Theory Test is that the group compares with the average and lower scorers of Criterion II and the average scorers of Criterion Group III. If the measuring instrument is valid and reliable and if the twelve teachers applied their best efforts to the task, then it must be presumed that none of the teachers possessed a high degree of theoretical knowledge.

Teacher Practices in Comprehension Development

Teacher practices in comprehension development concerned reading comprehension outcomes, congruence-incongruence, and solicitation-response interaction patterns.

Reading Comprehension Outcomes Dimension

As evidenced by the data in the study, second-, fourth-, and sixth-grade teachers dwelled in the literal comprehension areas of recognition and recall to the extent that 73 per cent of their collective solicitations were found in this combined area. The data further revealed that the percentage of literal comprehension solicitation activity declined in accordance with advancing grade levels as seen by the following percentages: second grade, 78.8 per cent; fourth grade, 64.7 per cent; and sixth grade, 57.8 per cent. Literal comprehension solicitation activity tended to decline with advancing group levels in the fourth and sixth grades although such a pattern was not apparent in the second grade.

The decreasing use of literal solicitation activity in the higher grades and higher groups of the fourth and sixth grade is reflected in the increasing percentage of inferential solicitation activity in these grades and groups. Evidence of such increases are seen in the following percentages of inferential activities in the grades: second grade, 9.5 per cent; fourth grade, 14.2 per cent; and sixth grade, 26 per cent.

Explanation of the aforementioned patterns of solicitations activity resides in the often-expressed saying that "children learn to read in the primary grades and read to learn in the intermediate grades." Thus, "learning to read" becomes equated in practice with word recognition and literal comprehension while "reading to learn" entails focus upon the application of more advanced reading comprehension and study skills. Upper-grade teachers apparently seem to feel that lower reading groups have a lesser command of the literal comprehension skills and consequently give them a higher concentration of such skills than are given to higher groups.

Translation, a reading-thinking skill conceptualized between the literal and inferential reading skills, appears greatly neglected, as evidenced by the incidence of only twelve translation solicitations. Its scarcity seems to be the result of a failure on the part of reading theoreticians and textbooks writers to recognize the translational skills and their importance. Further, it appears to be a skill that does not allow for the quick and clean solicitation-response patterns that are suggested by the other forms of solicitation, excepting explanation.

No clearcut pattern was revealed with regard to the use of evaluative solicitations. Rather, it appeared to be largely an individual teacher concern. However, it should be noted that there did not appear to be a lack of evaluative solicitation activity as suggested by Henry (30) because such activity constituted 15.3 per cent of the total solicitation activity.

It should be pointed out that evaluation as conceived in the Reading Comprehension Solicitation-Response Inventory was restricted to structured situations wherein students were asked to provide value statements (usually a word or two) on a dimension developed by the teacher. The support of the value became the concern of the explanation category. In this light it soon became apparent that the 15.3 per cent evaluation activity was almost entirely "yes" and "no" responses to a judgment situation structured by the teacher. As revealed in these responses and the "justification" category of the Solicitation-Response Episodes, students seldom supported their judgments and were seldom asked to do so. Thus, it is apparent that the value of such evaluative solicitation activity is virtually nil because it is most simple to say "yes" or "no" when one realizes that he will not have to support such a conclusion.

Solicitation-Response Interaction Dimension

This dimension of the study was divided into (1) congruence and incongruence factors and (2) patterns. The latter area was broken down into Solicitation-Response Units and Solicitation-Response Episodes.

Approximately one of every ten solicitations found in the study terminated with an incongruent response as seen by the 9.6 per cent incongruence figure. Incongruence was more predominant in the fourth and sixth grades than in the second grade.

The explanation of the incongruence phenomonon appears explainable in terms of the increasingly difficult nature of the reading materials and the teachers' failure to familiarize themselves with the substantive aspects of the responses they were summoning with their oral solicitations. Generally, second-grade teachers asked literal comprehension questions on a large number of small details, while fourth- and sixth-grade teachers tended to solicit from a much larger pool resulting from increasing the complexity and length of the stories. Consequently, the second-grade teachers had greater command of the substantive information while the upper grade teachers had to trust more to their memories which frequently failed as was indicated in the incongruence ratios.

The following types of patterns were observed: Solicitation-Response Units and Solicitation-Response Episodes.

The most significant observation relative to Solicitation-Response Unit patterns was the fact that nine out of every ten congruence units were SR+

units. This indicated that teachers designed solicitations in such a way that a congruent response would be achieved on the first student response. The pairing of the dominant solicitation type (recall, 1056 out of 1857) with this dominant unit type further indicated the general mode of solicitation-response behavior. Thus, it was concluded that recall SR+ units were the overwhelming mode of solicitation activity. Apparently, this combination reveals the sample teachers preoccupation with the simple literal elements of reading.

Although the findings were not significant in terms of percentages, the high incidence of S(o)/R+, S(o)/(o)/R+, and S(o)/R-/R+ in the case of a study teacher indicated that inability to formulate solicitations might be a contributing factor to poor instruction and subsequently poor reading comprehension.

Solicitation-Response Episodes as defined in the study were found in only 146 instances. When it is realized that each episode generally represented a combination of two units it becomes apparent that only 292 units of some 1857 were related to one another in episode patterns. This indicates that teachers do not relate solicitations to one another frequently but rather tend to approach comprehension from a shotgun approach of unrelated solicitations.

Relations Between Teacher Practices and Knowledge

Relations between teacher practices and knowledge were sought in terms of a comparison of the practices of high- and low-scoring sample teachers. In the absence of high-scoring teachers, visual comparisons were made of (1) the high- and low-scoring individuals and (2) the composite practices of six of the teachers who attained average scores and the composite practices of the remaining six teachers who attained low scores. The results of the comparison of the two individuals indicated differences, but such differences could not be attributed to the test ratings. In terms of the comparison of the average and low scoring groups, certain differences were noted with regard to solicitations and congruence. The average scoring teachers tended to solicit more literal comprehension outcomes than did the low scoring teachers while the latter group solicited more inferential and evaluative outcomes. Affecting the patterns of the average- and low-scoring groups were the scores of second- and sixth-grade teachers. For some unexplained reason, three of the four second-grade teachers were in the average group while three of the four sixth-grade teachers scored low scores. The practices of average and low groups were consequently determined by the practices of these two grade level groups. Because of the small sample it is difficult to generalize on the scoring performances of the second- and sixth-grade teachers. Conceivably, second-grade teachers may possess greater understanding of reading comprehension development as a result of their proximity to task development in this area. It is also quite possible that the test measured factors about which second-grade teachers might have greater knowledge, whereas other factors more familiar to sixth-grade teachers may have been omitted. These are but a few of the possibilities, and many others such as interest, motivation, test validity, etc., can be developed.

Limitations of The Study

The limitations of the study are discussed in terms of the following areas: instrumentation, sampling, and data collection procedures.

The instrumentation of the study encompassed the Reading Comprehension Theory Test, Reading Comprehension Solicitation-Response Inventory, Congruence-Incongruence, the Solicitation-Response Unit, and the Solicitation-Response Episode.

The study's measure of teacher knowledge about reading comprehension was sharply limited by the nature of reading comprehension theory. Due to the intangible nature of so much of the theory, many of the test items appear to be more opinion than consensus. Consensus appears difficult to obtain in the light of the many and varied conceptualizations of the process of reading comprehension, its components, and the factors affecting its development. Thus, the Reading Comprehension Theory Test's validity is challenged. Also, its reliability as measured by item consistency on the Hoyt Reliability Test appears low.

By choosing to classify the outcomes of the reading comprehension process rather than the process itself it appears that some of the argument relative to the categories was removed. Yet much remains to be done in terms of filling out the contents of each category. Such a filling out would include further subdivisions of the major categories as well as relative levels of difficulty within categories, e.g., the varying degree of recall difficulty.

Judgments relative to the reciprocity or congruence between solicitations and responses appeared rather easy to achieve in situations where the referents were obvious, i.e., recall, recognition. Yet, such judgments were not easily made in instances of explanation when the referents were not immediately available or clear.

The Solicitation-Response Unit appears to rest on strong foundations as supported by its identification in the current study as well as in other studies. Seemingly, unit identification was not a limitation.

Conceivably, the Solicitation-Response Episode patterns of the study present a fragmented view of teacher patterning actions. Thus, room remains for other means of describing the relationships between solicitations.

Sampling must be identified as a great limiting factor in the current study. As previously indicated, four classrooms were chosen at each of three grade levels (2nd, 4th, and 6th) in a single school district. Such a sample represented a restricted sample from a restricted population. For broader inference it would appear that a larger sample should be chosen from a larger population. In addition to the sample limitations within the grade levels studied, it should be pointed out that the sample was only representative of three grades, or half of the normal six grade elementary school organizational plan. Thus, it would seem that all grades should be included in subsequent studies.

Probably one of the greatest limitations of the study was the assumption that the random sample of twelve teachers would contain teachers at both high- and low-scoring levels on the Reading Comprehension Theory Test. As was apparent, the sample did not include a single high-scoring individual. Thus, it would seem vital that a repeat of the study should begin with the testing of a wide sample of teachers in order that high and low groups could be identified for subsequent observation.

Procedural limitations of the study concern the segment of solicitation-response interaction and the means wherein it was taken. It could be argued that a three-day slice of solicitation-response activity is not representative of the ongoing program. The argument is strengthened when it is pointed out that the segment was taken under most unusual conditions wherein the teachers and students were confronted with the new distractions of observers, tape recorders, and microphones. The answers to such limitations would suggest such procedures as preview or practice sessions, large sample pools from which smaller samples can be selected, extended observation and taping period, etc. Unfortunately, time factors limited the use of some of these techniques.

Implications

The current study seems to be very relevant to both pre-service and in-service teacher education on two fronts: (1) the development of solicitations that stimulate various thinking outcomes and (2) the development of interaction patterns that are capable of permitting, encouraging, and stimulating more thoughts and a greater variety of thoughts.

Attention has long been given to the question or solicitation as a stimulator of thought. Everybody appears to recognize the importance but few have taken specific steps in teacher education to assist potential teachers and regular teachers with the requisite knowledge about the kinds of questions they can ask. In terms of reading comprehension, the reading teacher has been given some rather vague notions about literal comprehension, interpretation, and critical reading but has not been given sharp classifications or concrete situations wherein to practice. Seemingly, armed with the Reading Comprehension Solicitation-Response

Inventory and any reading material the student or teacher can practice her skill and develop some kind of tangible framework for subsequent practice in the classroom.

By demonstrating that teachers most frequently solicit recall solicitations the current study has shown the increasing need for other types of thinking. The dramatic capstone to the recall mode is the revelation that the single recall solicitation followed by the single congruent recall response (SR+) is the dominant interaction pattern. From this combination it is apparent that teachers utilizing such solicitation activities are conditioning pupil thinking to the point wherein they will respond with a simple fact. The teacher insures congruence by choosing only those things that will generally be answerable on a single try. Conceivably, teachers should solicit in ways wherein responses may not be congruent on the initial effort or where numerous congruent responses may be offered (conjecture). If highly stimulating inferential solicitations are developed they may sustain wide response in such a fashion that the abbreviated SR+ pattern becomes an elongated (SR+R R+R+/R-/R+ /R+/R+). For the elongated pattern which generates thought the teacher must learn to play the new role of the individual who keeps the question open and on the track with timely clarifying, cueing, and extending acts. Too, he must learn to handle the incongruent response in such a manner that it does not defeat its author or subsequent respondents.

Generated from the SR+ pattern is a phenomenon which may be referred to as the "one shot" solicitation pattern. This refers to the study findings that indicate that teachers do not relate questions to one another in larger wholes but tend, for the most part, to solicit in one-shot sequences. To break the one-shot pattern teachers and prospective teachers at all levels should study the patterning concepts embodied in the Solicitation-Response Episode framework. They should realize the importance of asking questions to establish purposes for reading and then to follow such questions up. They need to ask pupils to go to the context to verify responses in some instances. One of the most distressing teacher practices is the one wherein students are asked to choose one side of a value dimension structured by a teacher solicitation and then to be released from the obligation of having to support their value position in some logical manner.

Teachers armed with the knowledge of the "recall SR+ one-shot" pattern can substantially alter their verbal solicitation-response interaction behaviors with students. They can learn how to do this by applying techniques suggested by the conceptual framework of the major study instruments. This framework can be applied at the pre-service and in-service teacher education levels. Both groups can apply their knowledge to the development of questions and questioning strategies relative to any given reading content. Possibly, individuals in both groups would want to use tape recorders for the purpose of recording their own interaction patterns. Not only would such a practice eliminate much embarrassment it would provide the teacher with a continuing basis for assessing her solicitation types and the ensuing interaction patterns. With such knowledge she could bring into focus new means or techniques of solicitation.

BIBLIOGRAPHY

1. Aaron, Ira. "What Teachers and Prospective Teachers Know About Phonic Generalizations," Journal of Educational Research, 53 (May 1960), 323-330.

2. Aschner, Mary Jane, Gallagher, James J., Perry, Joyce M., Afsar, Sibel S., Jenne, William, and Farr, Helen. A System For Classifying Thought Processes In The Context of Classroom Verbal Interaction. Champaign, Illinois: Institute for Research on Exceptional Children, 1965.

3. Austin, Mary C. The Torch Lighters. Cambridge, Massachusetts: Harvard University Press, 1961.

4. Austin, Mary C. and Morrison, Coleman. The First R: The Harvard Report on Reading in Elementary Schools. New York: The Macmillan Company, 1964.

5. Baker, Frank B. Generalized Item and Test Analysis. (A Program for the CDC Computer Operating Under the Coop Monitor), Laboratory of Experimental Design, Madison, Wisconsin: University of Wisconsin, 1964, pp. 1.

6. Barr, A S Characteristic Differences in the Teaching Performance of Good and Poor Teachers of the Social Studies. Bloomington, Illinois: Public School Publishing Company, 1929.

7. Beery, John R. Professional Preparation and Effectiveness of Beginning Teachers. Coral Gables, Florida: Graphic Arts Press, 1960.

8. Bellack, Arno A. in collaboration with Ronald T. Hyman, Frank L. Smith, Jr., and Herbert M. Kliebard. The Language of the Classroom, Part Two. New York: Institute of Psychological Research, Teachers College, Columbia University, 1965 (mimeographed).

9. Bellack, Arno A. and Davitz, Joel R. in collaboration with Herbert M. Kliebard and Ronald T. Hyman. The Language of the Classroom. New York: Institute of Psychological Research, Teachers College, Columbia University, 1963 (Mimeographed)

10. Block, Elaine C. Sequence As a Factor in Classroom Instruction. Unpublished Ph.D. dissertation, University of Wisconsin, 1964.

11. Bloom, Benjamin S. (editor) Taxonomy of Educational Objectives, Handbook I: Cognitive Domain. New York: David McKay Company, 1956.

12. Bloomfield, Leonard and Barnhart, C L Let's Read: A Linguistic Approach. Detroit: Wayne University Press, 1961.

13. Bobbs-Merrill Company. Your Guide for Evaluating the 1959 Reading for Living Series. Indianapolis: Author, 1959.

14. Burnett, Richard W. Problem Solving Proficiency Among Elementary School Teachers, Diagnostic Problem Solving in Teaching Reading. Bloomington, Indiana: Institute of Educational Research, 1963.

15. DeBoer, John J. and Dallman, Martha. The Teaching of Reading. New York: Holt, Rinehart, and Winston Company, 1964.

16. Dechant, Emerald V. Improving the Teaching of Reading. Englewood Cliffs, N. J.: Prentice-Hall, 1964.

17. Durkin, Dolores. Phonics Test for Teachers. New York: Bureau of Publications, Teachers College, Columbia University, 1964.

18. Educational Policies Commission. The Central Purpose of American Education. Washington, D.C.: National Education Association, 1961.

19. Earley, Margaret. What Elementary Schools Can Do To Promote Reading Skills. A paper presented at the Summer Reading Institute of the University of Wisconsin, 1965.

20. Flanders, N. A. Teacher Influence, Pupil Attitudes and Achievement. Minneapolis: University of Minnesota (United States Office of Education Cooperative Research Project Number 397), 1960 (mimeographed).

21. Gallagher, James J "Expressive Thought By Gifted Children In The Classroom," Elementary English, XXXXII, No. 5 (May, 1965).

22. Ginn Company. Ginn Progress Chart. Boston, Massachusetts: Author, 1958.

23. Guilford, J. P. "Traits of Creativity," in Creativity and Its Cultivation (Interdisciplinary Symposium on Creativity). New York: Harper Brothers, 1959.

24. Guilford, J. P. "Three Faces of Intellect," American Psychologist, XIV (August 1959), 469-479.

25. Hamburger, Martin. Realism and Consistency in Early Adolescent Aspirations and Expectations. Unpublished Ph.D. dissertation, Columbia University, 1958.

26. Harris, Albert J. How To Increase Reading Ability. New York: David McKay Company, 1961.

27. Harris, Ben A. and McIntyre, Kenneth E. Studying the Questions Asked By Teachers. Unpublished manuscript, University of Texas, 1961.

28. Harris, Theodore L. "Summary of Investigations Relating to Reading July 1, 1962 to June 30, 1963," Journal of Educational Research, 57 (February, 1963), 283-327.

29. Heilman, Arthur W. Teaching Reading. Columbus, Ohio: Charles E. Merrill Company, 1961.

30. Henry, Jules. "Reading for What?", Teachers College Record, LXV (October, 1963).

31. Hester, Kathleen B. Teaching Every Child To Read. New York: Harper and Row, 1964.

32. Houghton-Mifflin Company. Skills Taught in the McKee Reading Series Revised Editions. Boston: Author, 1959.

33. Hughes, Marie. Development of the Means for the Assessment of the Quality of Teaching in Elementary Schools. Salt Lake City: University of Utah Press, 1959.

34. Jayne, C. D. "A Study of the Relationship Between Teaching Procedures and Educational Outcomes," Journal of Experimental Education, XIV, 1945, 101-134.

35. Kerfoot, James F "Problems and Research Considerations in Reading Comprehension," The Reading Teacher, XVIII, 1965, 250-256.

36. Lefevre, Carl A. Linguistics and the Teaching of Reading. New York: McGraw-Hill Book Company, 1964.

37. Letton, Mildred C. "Evaluating the Effectiveness of Teaching Reading," in Evaluation of Reading. (Supplementary Educational Monographs, No. 88) Chicago: University of Chicago Press, 1958.

38. Medley, D. M. and Mitzel, H. E. "A Technique for Measuring Classroom Behavior," Journal of Educational Psychology, XXXXIX, 1958, 86-92.

39. McKim, Margaret G. and Caskey, Helen. Guiding Growth in Reading. New York: The Macmillan Company, 1963.

40. Pressey, Luella C. and Pressey, S. L "A Critical Study of the Concept of Silent Reading Ability," Journal of Educational Psychology, XII, 1921, 25-31.

41. Robinson, Helen M. "Summary of Investigations Relating to Reading, July 1, 1963 to June 30, 1964," The Reading Teacher, XVIII, 1965, 331-399.

42. Russell, David H. Children Learn to Read. Boston: Ginn Company, 1961.

43. Russell, David H. and Fea, Henry R. Chapter on Reading Research, in Handbook of Research on Teaching. Chicago: Rand McNally Company, 1963, 865-928.

44 Sanders, Norris M The Taxonomy of Classroom Questions. Unpublished manuscript, Manitowoc, Wisconsin, 1964.

45. Scheffe, H. The Analysis of Variance. New York: Wiley Company, 1959.

46. Scott, Foresman, Company. An Administrator's Handbook on Reading. Chicago: Author, 1956.

47. Smith, B. Othaniel and Meux, Milton O. in collaboration with Jerrold Coombs, Daniel Eierdam, and Ronald Szoke. A Study of the Logic of Teaching. Urbana, Illinois: Bureau of Educational Research, 1962 (mimeographed).

48. Smith, Donald E. P. "Reading Comprehension, A Proposed Model," in Research and Evaluation in College Reading, Ninth Yearbook. Fort Worth, Texas: Texas Christian University Press, 1960.

49. Smith, Madora E. "An Investigation of the Sentence and Extent of Vocabulary in Young Children," University of Iowa Studies in Child Welfare, Volume III, Number 5, 1926.

50. Smith, Nila B. Reading Instruction for Today's Children. Englewood Cliffs, New Jersey: Prentice-Hall, 1963.

51. Spache, George D. Toward Better Reading. Champaign, Illinois: Garrard Publishing Company, 1963.

52. Spache, George D. and Baggett, Mary E. "What Do Teachers Know About Phonics and Syllabication," The Reading Teacher, XIX (November, 1965), 96-99.

53. Stanley, Julian C. Measurement in Today's Schools. Englewood Cliffs, New Jersey: Prentice-Hall, 1964.

54. Strickland, Ruth G. The Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children. (Bulletin of the School of Education, Indiana University, Volume 38, Number 4) Bloomington, Indiana: Indiana University, 1962.

55. Turner, Richard L. and Fattu, Nicholas A. Skill in Teaching Assessed On the Criterion of Problem-Solving. (Bulletin of the School of Education, Indiana University, Volume 37, Number 3) Bloomington, Indiana: Indiana University, 19661.

56. Wade, Eugene W. The Construction and Validation of a Test of Ten Teacher Skills Used in Reading Instruction. Unpublished Ph.D. dissertation at Indiana University, 1961.

57. Walker, Helen M. and Lev, Joseph. Statistical Inference. New York: Holt, Rinehart and Winston, 1963.

58. Withall, J. "The Development of a Climate Index," Journal of Educational Research, XLV, 1951, 93-99.

APPENDIX I

READING COMPREHENSION THEORY TEST

AGE:________ SEX:________

TEACHING EXPERIENCE:____________(years)

HIGHEST DEGREE HELD:____________

GRADE LEVEL TAUGHT:____________

READING COURSES TAKEN:____________

NOTE: The follwoing is an effort to assess your theoretical knowledge about reading comprehension. No threat should be imposed as the results will be completely anonymous and no effort will be made to figure out identities from the information called for above. Rather, you will be serving as a member of a norm group as we attempt to establish norms on the basis of several factors. Please answer as best you can and don't feel depressed if some of the questions make little sense. If you feel that some questions are ambiguous or otherwise unclear, please identify these and tell why they appear to be such after you have attempted an answer.

DIRECTIONS: In the following statments are some that are true as well as some that are false. Place an "F" before statements that appear false in any way and a "T" before those which seem true as stated.

____1. Lafevre proposes a structural linguistic approach to reading that would place primary emphasis upon obtaining meaning at the sentence level.
____2. Estimates of the average first grader's meaning vocabulary vary sharply but usually cluster around 2,500 words.
____3. Reading comprehension is based to some extent upon an understanding of the structural patterns of the English sentence.
____4. Testing a child's listening comprehension can give an indication of his reading comprehension potential.
____5. Reading comprehension is a broad term that generally refers to all of the thought-getting processes of reading.
____6. If one assists a student to increase his reading rate, improved reading comprehension will follow.
____7. A pupil who has high comprehension in one content area of reading is likely to be good in other areas.
____8. Materials for beginning reading generally contain words whose meanings are familiar to the child of average intelligence.
____9. Critical reading is related to experience, to reading background, and to training.
____10. The improvement of rate in reading is probably the best way to improve reading comprehension.
____11. Comprehension skills and study skills are essentially the same skills.
____12. A child's speaking vocabulary exceeds his understanding vocabulary in the first grade.

___13. One reason for teaching critical reading is to enable the reader to profit from books without the limiting effects of his own personal biases.

___14. Critical reading is relatively independent of intelligence, age, and knowledge of subject matter.

___15. The inability to concentrate on what is being read is the cause of many children's difficulties in reading comprehension.

___16. Primer material is frequently designed in such a way that a line of print usually presents a complete thought unit.

___17. Listening comprehension in the nature of the task is closely related to reading comprehension.

___18. Essentially the connotation of a word is the same thing as the denotation of a word.

___19. A student cannot be expected to read critically in materials which he cannot read readily in the literal sense of the term.

___20. Reading comprehension can be considered well-developed if the child can obtain accurate, literal meanings from his basal materials.

___21. The development of an extensive and accurate reading vocabulary is necessary for effective reading comprehension.

___22. The teaching of comprehension skills should receive minimum attention in the first few years of school when the child's attention is focused on word recognition techniques.

___23. The ability to recall details from a story has little place in a good reading comprehension program.

___24. No evidence exists that indicates that the building of a background for a reading selection can improve the comprehension of the selection.

___25. Reading to obtain the main or central idea is generally regarded as one of the most advanced reading comprehension skills.

___26. Reading comprehension is of lesser importance in Grade 1 than the succeeding grade levels.

___27. Linguistic studies indicate that the language of a basal series primer is largely parallel with the linguistic patterns of children who use them.

___28. Word-by-word readers frequently depend upon context clues for obtaining the meanings of unknown words.

___29. Word recognition skills are valuable only insofar as they make reading comprehension possible.

___30. Some reading authorities suggest that new vocabulary words should be introduced in context because children obtain more accurate meanings by seeing them in context.

___31. Outlining and summarizing are among the most important comprehension skills taught in the elementary school.

___32. Bloomfield, the noted linguist, defined reading as a meaning-getting process wherein speech sounds are transcribed into meaning units.

___33. Poor comprehension in reading is frequently the secondary result of one or a combination of the following: low intelligence, poor word recognition, deficient vocabulary.

___34. Critical reading skills have little place in the primary grades because teachers are primarily concerned with word recognition skills.

___35. Meaning vocabulary appears to be closely related with comprehension and reasoning ability.

___36. "Setting purposes for reading" refers generally to the process wherein the teacher attempts to outline the importance and value of reading for her students.

___37. Elementary teachers work hardest on the development of interpretive skills as opposed to other reading comprehension skills.

___38. Fluency in oral reading may be an indication that a student comprehends what he is reading.

___39. Factor-analytic studies of thinking processes supply us with clear constructs of the mental behavior involved in reading comprehension.

___40. Standardized survey achievement tests are valuable aids to teachers of reading because they identify specific comprehension weaknesses.

___41. A teacher without sufficient standardized test information cannot be expected to obtain much of an indication of a child's reading comprehension ability.

___42. To insure comprehension depth the elementary teacher should teach as many meanings of each word as she can find.

___43. No evidence exists to show that "setting purposes for reading" results in improved reading comprehension.

___44. Structural linguistics is concerned in part with the effects of intonational patterns upon word meanings.

___45. Regressive eye movements can sometimes facilitate reading comprehension efficiency.

___46. Reading comprehension and readability are synonomous terms.

___47. Reading comprehension can be handicapped by both very rapid reading and very slow reading.

___48. Most standardized tests do not include mearures of critical reading ability.

___49. Semantics refers to the study of language and thought.

___50. Oral reading by a child offers a teacher no important clues about a child's reading comprehension.

___51. Although useful, oral questions about a story by the teacher are not as valuable as written questions.

___52. Overemphasis of semantics might result in over-analysis and a severe curtailment of reading rate.

___53. If a student is accomplished in word recognition skill it follows that he will be similarly accomplished in reading comprehension skills.

___54. "Glittering generalities" is a name given to a propaganda device that is sometimes found in reading materials.

___55. One of the important tasks of the reader in reading comprehension is the organizing of material into meaningful phrases and thought units.

___56. Critical reading is primarily the task of detacting propaganda devices in reading material.

____57. **The child who reads carefully for detailed recall is probably the child who reads best for the main idea.**

____58. **The ability to perceive relationships is a comprehension skill that is basic to summarizing and organizing ideas.**

____59. **Creative reading refers to a set of comprehension skills conceptualized by David H. Russell.**

APPENDIX II

Reading Comprehension Solicitation-Response Inventory

Literal Comprehension - Such solicitations require responses that can be found clearly in the textual materials and involve only a literal understanding of the material. The following classifications represent the breakdown of such reading comprehension activity.

Recognition - These solicitations call upon the students to utilize their comprehension skills in the task of locating information from reading context.

Recall - Recall solicitations call for students to demonstrate comprehension by the recall of materials previously read. Such activity is primarily concerned with the retrieval of small pieces of factual material although the activity can vary greatly in difficulty depending upon the nature of the item called for and its prominence in the reading context. Recall is differentiated from "translation" in that recall does not call for a part for part rendering of a communication above the sentence level.

Translation - These solicitations require the student to render an objective, part for part parallel of a communication. As such the behavior is characterized by literal understandings in that the translator does not have to discover intricate relationships, implications, or subtle meanings. Translation solicitations frequently call upon students to change words, ideas, and pictures into different symbolic form as is illustrated in the following material from Bloom (10).

Translation from one level of abstraction to another, i.e. abstract to concrete, lengthy to brief communication, etc.

Translation from one symbolic form to another, or vice versa, i.e. pictures to verbal descriptions, verbal to dramatizations.

Translation from one verbal form to another, i.e. non-literal statements (metaphor, symbolism, exaggeration) to ordinary English.

Inferential - Such solicitations require the students to "read between the lines" or infer ideas depending upon such things as the nature of the solicitation, etc. Breakdowns of this classification follow.

Conjecture - These solicitations call for a cognitive leap on the part of the student as to what might happen or will happen. As such the conjecture is anticipatory and is not a rationale. Conjectures may be either convergent or divergent.

Explanation - Explanation solicitations are those that call for a rationale such as the "why" or "how" of a situation. The rationale must be inferred by the student from the context developed or go beyond it if the situation is data poor in terms of providing a rationale. Some of the more common types of explanatory behavior are substantiations of claims, explanations of value positions, explanations of the workings of complex processes and mechanisms, generalizations, and the formulation of conclusions. The main idea is considered a summary conclusion which is a part of this category.

Evaluative - Evaluative solicitations deal with matters of value rather than matters of fact or inference and are, thus, characterized by their judgmental quality (desirability, worth, acceptability, or probability of occurrence). The following components of this category are adapted from a classification scheme by Aschner and Gallagher (2)

Solicitations call for a rating (good, bad, true, etc.) on some item (idea, person, etc.) in terms of some scale of values provided by the teacher.

Solicitations call for a value judgment on a dimension set up by the teacher. Generally, these are "yes" or "no" responses following solicitations such as "Would you have liked Tom to be your brother?"

Solicitations develop from conjectural solicitations when the solicitation is qualified by probability statements such as "most likely."

Solicitations present the student with a choice of two or more alternatives and require a choice on the part of the student, i.e. "Who did the better job in your opinion, Mary or Susan?"

APPENDIX III

SOLICITATION-RESPONSE EPISODE-PATTERNS

SETTING PURPOSE FOLLOW-UP - This type of episode would result when a teacher would follow up a "setting purpose" solicitation (S(0)) with a parallel solicitation calling for a response. In other words this episode indicated that the teacher would follow up the setting "purpose" solicitation to determine if the purpose was achieved. On many occasions it was observed that teachers would set purposes but would neglect to follow up on them. Illustrative of the "setting purpose follow up" episode is the following example.

1 Teacher: Read this page and the next to yourself. Find out who woke him up, and what he decided to do.

0 (Children read silently.)

2 Teacher: Who woke Andy up?

2- Student: His daddy and Dot. (Answer judged incongruent because Dot was not involved in the asking act.)

VERIFICATION - These episodes involve solicitations wherein congruence can be verified by referring to the text. It is the reverse of the "setting purpose follow up" episode in that a recall or translation response is followed by a teacher solicitation that calls upon the student or group to verify the accuracy or inaccuracy of the previous statement. The verification may involve recall or recognization. The following example illustrates a verification episode.

2 Teacher: How many children were there?

2+ Student: Six.

1 Teacher: I'm not sure about that. Can you show me?

1+ Student: It said that there were two the first time, two the second time, and two the third time.

JUSTIFICATION - This type of episode appears when a teacher will call upon a student to justify his own or somebody else's previous response by the use of explanation. This explanation might follow any type of previous response but most frequently follows judgment and conjecture responses. An example of this episode follows:

7 Teacher: Looking at the sign, do you think the circus is still in town?

7- Student: Yes.

5 Teacher: Why?

D Student: I don't know.

JUDGMENTAL - This episode refers to those situations wherein the teacher will solicit a judgmental or evaluative reaction (not an explanation) to a previous student response. In many instances this episode type represents a reverse of the justification episode in that a student or group is asked to make a judgment about a previous conjecture or explanation.

5 Teacher: Why do you think it would be fun to visit on Pleasant Street?

5+ Student: Because it's quiet and you don't hear any sounds.

7 Teacher: Are you sure?

7+ Student: Yes.

APPENDIX IV

READING MATERIALS USED IN SOLICITATION-RESPONSE INTERACTION IN THE SAMPLE SECOND, FOURTH, AND SIXTH GRADES

Class	Unit Title	Book Title	Publisher
2001	A Funny Telephone	New Friends and Neighbors	Scott, Foresman
	As Good As New	We Three	Scott, Foresman
	Birthday Surprises	We Three	Scott, Foresman
	John Uses His Head	New Friends and Neighbors	Scott, Foresman
	New Friends	New Friends and Neighbors	Scott, Foresman
2002	A Circus Dog	Up and Away	Houghton-Mifflin
	How Joe Helped	New Friends and Neighbors	Scott, Foresman
	New Friends	New Friends and Neighbors	Scott, Foresman
	Wait for Cakes	Up and Away	Houghton-Mifflin
	Who Wants to Run Away?	Up and Away	Houghton-Mifflin
2003	A Busy Day	Our New Friends	Scott, Foresman
	Here Comes Father	New Friends and Neighbors	Scott, Foresman
	Old Toy Horse	Our New Friends	Scott, Foresman
	Over I Go	New Friends and Neighbors	Scott, Foresman
	Too Little	We Three	Scott, Foresman
	We Three	We Three	Scott, Foresman
	Who Will Help?	Our New Friends	Scott, Foresman
2004	A New Family	Through Happy Hours	Economy
	A New Game	New Friends and Neighbors	Scott, Foresman
	Fun With The Rabbits	We Three	Scott, Foresman
	Here, There, Anywhere	New Friends and Neighbors	Scott, Foresman
	John Sand's Secret	Through Happy Hours	Economy
	Mrs. Hill's Birthday	New Friends and Neighbors	Scott, Foresman
	Pam Makes Something	We Three	Scott, Foresman
4001	Jim's Radio	Neighbors On The Hill	Row, Peterson
	The Mouse That Went to Work	Just Imagine	Scott, Foresman
	Too Many Brothers	New Times and Places	Scott, Foresman
4002	Something To Do	Along Friendly Roads	American
	Study Book	Along Friendly Roads	American
	Tall Tale From the High Hills	Along Friendly Roads	American

Class	Unit Title	Book Title	Publisher
4003	Mixed Up Family	Just Imagine	Scott, Foresman
	Patty's Middle Name	Just Imagine	Scott, Foresman
	What Little Eddie Brought Home	Just Imagine	Scott, Foresman
4005	Mr. Sparks Tries To Help	Just Imagine	Scott, Foresman
	Patty's Middle Name	Just Imagine	Scott, Foresman
	Streak Jackson's Rocks	Just Imagine	Scott, Foresman
	The Spillmans Take A Ride	Just Imagine	Scott, Foresman
6001	Giueseppe Becomes A Composer	Stories to Remember	Lyons-Carnahan
	Paul Revere Rides Again	New People and Progress	Scott, Foresman
	Turn About	New People and Progress	Scott, Foresman
	Verdi, Little Music Master	Stories To Remember	Lyons-Carnahan
6002	Cheers For The Winner	New People and Progress	Scott, Foresman
6003	Dark Horse	New People and Progress	Scott, Foresman
	Skin Toss Champion	New More Days and Deeds	Scott, Foresman
	The Young Dreamer	Stories To Remember	Lyons-Carnahan
6004	Sent By Mail	New People and Progress	Scott, Foresman

APPENDIX V

SAMPLE TYPESCRIPTS OF SOLICITATION-RESPONSE INTERACTION IN GRADES TWO, FOUR, AND SIX

Included in this appendix are samples taken from the reading classes of a second grade teacher, a fourth grade teacher, and a sixth grade teacher.

The following legend explains the system employed in analyzing the typescripts:

Symbols	Explanations
═	Parallel lines indicate the boundaries of a Solicitation-Response Unit. When such lines are recessed a unit within a unit is signified. Slash marks (/) within the copy correspond with the parallel lines and delineate units.
{	This bracket unites Solicitation-Response Units into Solicitation-Response Episodes. To the left of the bracket the episode type is indicated by initials as follows: SP-F - setting purpose following, VER - verification, JUS - justification, and JUD - judgmental.
2	The number nearest the left margin of the paper indicates the nature of the teacher's initiating solicitation. The key to the number system is: 1 - recognition, 2 - recall, 3 - translation, 4 - conjecture, 5 - explanation, and 6 - evaluation.
2+	The number nearest the dialogue and to the right of the solicitation number indicates the nature of the student response. The number system is the same as the solicitation number system above. If the response is congruent with the solicitation a plus (+) is listed after the response number. If the response is incongruent a minus (-) is listed.

/	A slash mark (/) found below an initiating solicitation indicates a sustaining action on the part of the teacher wherein the Solicitation-Response Unit is kept open for response. Sustaining moves may clarify, extend, or cue response to the initiating solicitation.
N	The letter "N" means that the statement was not clearly discernible to the investigator and may be used with both solicitations and responses.
(-)	This sign indicates that a student response to an initiating solicitation was allowed but that no response was offered.
(o)	This indicates that a student response was called for but that the teacher did not permit a response.
|	A vertical line between two response numbers indicates that the responses are from different respondents.
X	The letter "X" refers to solicitation-response activity that is primarily managemental in nature. Generally, it refers to situations wherein the teacher asks the students for agreement on a premise developed by the teacher. Agreement signs are found in both the solicitation and response portions. These are marked to indicate that they are not neglected solicitation-response units about content but rating managemental units.
W.R.	The initials W.R. mean word recognition and refer to solicitation situations wherein teachers call upon students to carry out word recognition tasks. Such tasks are not a part of the Reading Comprehension Solicitation-Response Inventory.
Re	These letters signify a repeat of a teacher solicitation or a student response.
I	The letter "I" signifies that a solicitation, response, or both are illogical to the analyzer.

Class Number - 2001
Reading Group - Low
Book Title - We Three
Story Title - Birthday Surprises

T: /On the first page, what was the title of the story?

W.R. S: Birthday Surprises./

2 T: /Whose birthday was this?
para 5, p. 36

2+ S: (Students name various story characters.)/

2 T: /Who wakes him up?
para 1, 2, & 3, p. 36

2+ S: Father and mother./

2 T: /Look at the picture. Who is this (pointing to little brother)?
(Family position pointed out in previous story)

2+ S: His little brother./

X T: Now let's read and find out what our birthday surprise is. (Cue to read orally.)

X (Children read orally.)

2 T: /Let's talk about this page (page 37). What did they tell him when they woke him up?
para 1, 2, 3, p. 36

N S: (NCL)/

2 T: /And yes, what has already passed?
para 5, p. 36

N S: (NCL)/

5 T: /Why? (factual)

N S: (NCL)/

(Children read orally.)

2 T: /And what did Ted guess father had?
para 2, p. 37

2+ S: A ball bat./

2 T: /A ball bat and was it?

para 3, p. 37

2+ S: No./

2 T: /What was it?

para 5, p. 37

2+ S: A hat./

2 T: /He had a hat. What kind of hat?

para 6, p. 37

2+ S: A cowboy hat./

2 T: /Where was he holding it?

para 2, p. 37

2+ S: Behind his back./

7 T: /Would it have been more fun if he hadn't have been holding it like this?

7+ S: No./

X 0 T: /It wouldn't have been much fun would it?//All right, what was the mother holding?
2

picture, p. 38

2+ S: Clothes.

2+ S: Cowboy clothes./

2 T: /Did it tell us what she had?

picture

2+ S: No./

X T: Well, let's read it and see what she had. (Asks children to read orally.)

X (Children read page 38 orally.)

2 T: /After he got on all of his cowboy things how did he feel?

para 2, p. 38

2+ S: Like a cowboy./

7 T: /Like a cowboy. And is he?

7+ S: No./

2 T: No, he was just a little one. /Why did Billy tell him he wasn't a big cowboy?

para 4, p. 38

2+ S: Because he didn't have a horse./

Class Number - 4002
Reading Group - High
Book Title - Along Friendly Roads
Story Title - "A Tall Tale From the High Hills" (Read previously)

T: What if I were to tell you that Jackrabbits were so large in Texas that all they have to do is back up and run and they can jump the highest mountain. Now what kind of story would you say I was telling?

S: A tall tale.

7 T: A tall tale. I'm sure you didn't believe it. /Now you have already read our story today. Do you think it was a tall tale?

7+ S: No.

7+ S: Yes./

Class Number - 4001
Reading Group - Low
Book Title - Neighbors On The Hill
Story Title - Jim's Radio

2 0 T: /Before we open our books for today's story would
/ you like to tell me about Dick and Nancy? Where do they live? (Question about previous story "The Farmhouse on the Hill")

para 1, p. 4

2+ S: On the hill./

2		T:	On the hill, right. /And what about their house, what kind of a house? para 1, p. 4
	2+	S:	A farm house./
7		T:	Yes, they lived in a farm house on the hill./ Did they like living in their new house?
	7	S:	Yes./
4 / /	0 0 0	T:	/What did they like about it? What did they like about their newhouse and where it's located? What did they like about living on the hill?
/	4+	S:	They liked the hill.
/		T:	They liked the hill. What else did they like about living there?
	4+	S:	They can see./
2 /	0	T:	/What all can they see? They can see many interesting things. What were some of the interesting things it said they could see from their house? p. 5, 6, 7
	2+	S:	Gas station.
/		T:	Yes, they could see the gas station, Jim's father's. Yes, they could see the road. What else could they see from the house?
	2-	S:	The garden.
/		T:	Yes, the garden, the barnyard, and what else did they see?
	2+	S:	Barnyard./
2		T:	/Yes, what did they see in the barnyard? para 2, p. 6
	2+	S:	Chicken, pigs, the two horses, and the cow./
2 2 2	0 0	T:	/Now somebody tell me about their neighbors./ /Did they like him?/ /Who was their neighbor? para 1, p.7
	2+	S:	Mr. Banks./

2 T: /Mr. Banks and what about Mr. Banks?
para 2, p. 7

2+ S: He's their neighbor.

/ 0 T: Yes, right, he's their neighbor and can you tell me a little more about him?/ /How did they like him?

2
para 2, p. 7

2+ S: Well, they liked him because (teacher interrupts)/

2 T: /What did they like about Mr. Banks?
para 2, p. 7

0 S: He (pauses)

/ 0 T: Well, somebody else want to help him? What did
/ 0 they like about Mr. Banks?/ /Did they like him very much?
2
para 2, p. 7

2+ S: Yes./

7 T: /Was he good to them?

7+ S: Yes./

2 T: Yes, he was very good to them. /Was he a young man or an older man?
para 2, p. 7

2+ S: Older man (unison)/

T: Yes, well they enjoyed him very much.

S: He lived by himself.

T: Yes.

S: And he ..(pauses)

2 T: /And what did he raise?
picture, p. 7

2+ S: Bees (unison)/

1 0 T: /All right, would you open your books to page 9.
/ Let's find out about something Jim has. O.K., what is it that Jim has?
p. 9 (title)

1+ S: A radio (unison)/

T: How many of you have a radio?

(Many raised hands)

1 0 T: /Let's take a minute and look through the story. We want to get an idea of what it is about?/ (Pauses to allow students to browse)

1 T: /Could someone tell me what time of the year you think our story is taking place?
para 1, p. 9

1+ S: Winter (unison)/

T: Winter yes, we're going to find out that it takes
place in March which is at the end of winter. /It
X 0 looks like it's pretty cold outside, doesn't it?/
Do you notice the pictures? Do you notice that
there's lots of snow and it looks very cold? All
right, we find that this is "Jim's Radio" (reading
1 0 title). /Will you read the first paragraph and see
if you can tell us when the story was taking place?
para 1, p. 9

(Students read silently)/

2 T: /O.K. somebody ready to tell me when the story takes place?
para 1, p. 9

2+ S: In March./

2 0 T: /Yes, what time in March? What day?

/ 2+ S: Sunday./

2 T: /Yes, what time of day?
para 1, p. 9

2+ S: Afternoon./

2 T: /Afternoon, good. What kind of afternoon was it?
para 1, p. 9

2+ S: A snowy afternoon./

2 T: A snowy afternoon. /What happened on this snowy afternoon in March?

2+ S: Jim came over./

2 0 T: /How do you know it was Jim?/ /The doorbell rang,
X 0 didn't it?/ /O.K. would you finish reading page 9
1 0 and find out what Jim has come to tell them?/

(Students read silently)

2		T:	/Who was it that answered the door, Arthur? para 4, p. 9
	2+	S:	Dick./
2		T:	Dick answered the door. O.K. he told his mother he would see who it was. /How did he get up from his chair? para 2, p. 9
	2+	S:	He jumped up./
2		T:	/Yes, he hadn't any more than got to the door and it opened and a voice said something. What did the voice say? para 4, p. 9
	2+	S:	Hello./
2		T:	/Right, the voice said "Hello Dick". Who was the voice? para 5, p. 9
	2+	S:	Jim./
2		T:	/What had Jim come to tell him? para 6, p. 9
	2+	S:	His uncle was there and had brought him a radio./
		T:	Yes (Asks children to read page 9 orally)
			(Children read page 9 orally)
7		T:	/Do you think Dick and Nancy are going to want to see this radio?
	7+	S:	Yes./
1	0	T:	/Now read page 10 and see if they decide to go see it (the radio)?
			(Children read silently)
2		T:	/Were they getting very excided about the radio? para 1 & 2, p. 10
	2+	S:	Yes (unison)/
2		T:	/Was Nancy allowed to go? para 6, p. 10
	2+	S:	Yes./

2 T: Yes, she was. /What did they have to do before they could go?

para 7, p. 10

2+ S: Put their warm clothes on./

Class Number - 6003
Reading Group - High
Book Title - New People and Progress
Story Title - Dark Horse

5 T: /When you first looked at this title did any of you - what kind of an idea did you have, Mike, regarding what the story might be about?

5+ S: Well, I thought it would be about a spelling match because of the bulletin boards. I saw many elementary people in a spelling match./

4 T: /Fine, now supposing you wouldn't have had that bulletin board what might you have thought this story was about, Paul?

4+ S: I thought it might have been about a race - a dark horse or something like that./

1 T: I think that's true....../As you read in the story,
what kind of an idea, John, did you get regarding
0 the story?/ /What was sort of the theme or plot -
5 what were they trying to tell you?

5+ S: Well, that while you're studying if you try to teach somebody else something you're going to learn too.

/ T: Yes, that's good John. How about you, Melanie?

Re S: That's what I thought.

/ T: Did anybody get any different ideas about what was being said in the story?

- S: (Silence)

/		T:	Was it just a story about a spelling match, was there some other kind of story woven into it with other meanings?
	-	S:	(Silence)
/		T:	Johnny?
	D	S:	Not that I know of.
/		T:	Did anybody get any ideas about it, Fred?
	I	S:	I thought like Paul did, that it was going to be a horse race or something like that./
		T:	A horse race, yes. It could have been. (Asks child to read orally).
			(Long discussion of reading rate)
5 /	0	T:	Remember....... / What is a list of one hundred spelling demons? Is it a special list of any kind?
	-	S:	(Silence)
/		T:	Okay, Melanie?
	5+	S:	It's a list of hard words.
5		T:	/Well, why don't they call them a list of one hundred spelling Klicks or something?
	5+	S:	Because a demon is mean.
	5+	S:	Something bad./
		T:	Yes.
			(Continue oral reading)
3	0	T:	/What about this word "spirit of the thing"? What are we talking about, Mike?
	3-	S:	Well, he's got all the words right.
/		T:	No, the "spirit of the thing" - what's he talking about when he said he got the "spirit of the thing"?
	3+	S:	Well, he got into the feeling of it./

T: Yes.........

(Read orally)

5 T: What does a "dark horse" mean in this story?

5- S: Well, it means a dark, black horse.

/ T: So, that's what they're talking about here?

5+ S: No, something unheard of, something that might win or something./

5 T: Right....Something unexpected to win. /Why is he saying this?

5+ S: Well, it seems like Dick doesn't have any push and it would be unexpected if he won./

T: Right.